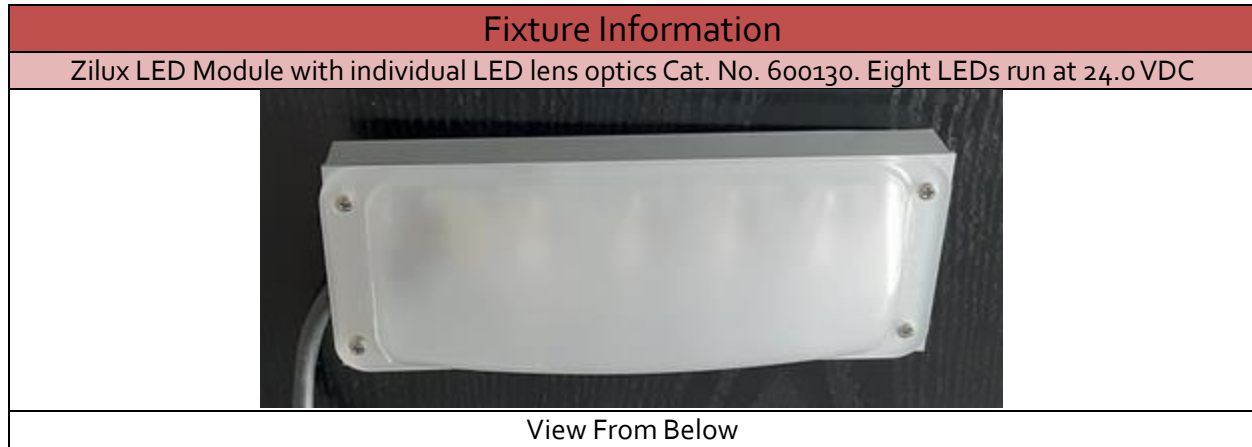


LM-79 Goniophotometric Report TEST REPORT NO. P190C-R1



Prepared For:
Zilux
Quebec, Quebec

Tested Date: December 11, 2023
Prepared Date: December 11, 2023

Prepared By:



Krishnan (Hari) Harikumar, PhD, LC
Senior Research Scientist
Lumentra Inc.

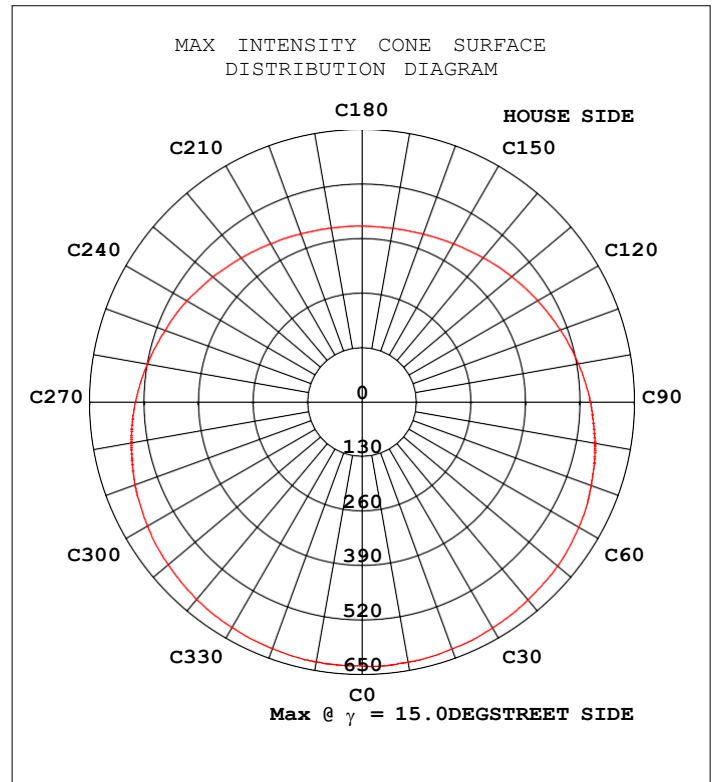
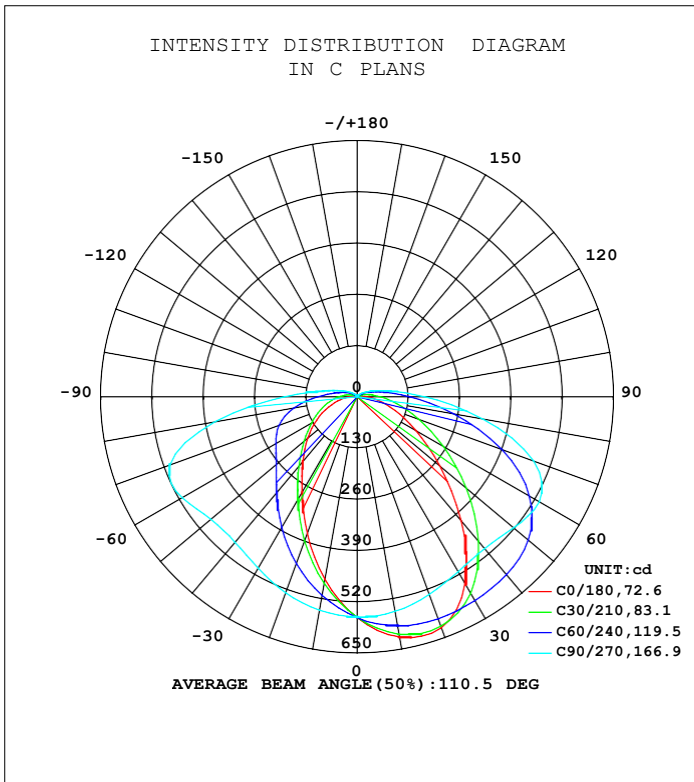
Approved by:

Charles Sisson

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:24.000V I:0.7837A P:18.809W PF:1.0000 Freq:0Hz Lamp Flux:2067.83x1 lm		
NAME: 600600130	TYPE: LED Luminaire	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux Inc.	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	631.0	η street_up (%)	4.2
NOMINAL POWER (W)		LOR (%)	100.0	η street_down (%)	58.1
RATED VOLTAGE (V)	120.0	TOTAL FLUX (lm)	2068	η house_up (%)	3.2
NOMINAL FLUX (lm)	2067.83	MAXIMUM @ (C, γ)	5,15.0	η house_down (%)	34.5
LAMPS INSIDE	1	η up (%)	7.4	76 FLASHAREA (m2)	
TEST VOLTAGE (V)	120.0	η down (%)	92.6	SLI	



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators: Bala
 Test Date: 11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance: 26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

ZONAL FLUX DIAGRAM

Test:U:24.000V I:0.7837A P:18.809W PF:1.0000 Freq:0Hz Lamp Flux:2067.83x1 lm		
NAME: 600600130	TYPE: LED Luminaire	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux Inc.	SUR.:	Shielding Angle:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum
10	618.7	603.0	552.5	495.2	470.7	495.1	550.1	599.7	0- 10	52.85	52.85	2.56
20	623.7	614.6	534.0	417.4	369.7	415.9	529.3	610.6	10- 20	150.5	203.4	9.84
30	547.4	595.3	512.4	338.1	280.2	333.6	502.0	589.6	20- 30	225.8	429.2	20.8
40	410.3	543.4	502.9	268.0	214.4	259.8	481.9	536.1	30- 40	271.1	700.3	33.9
50	273.8	463.5	517.5	213.8	163.7	202.9	483.8	456.1	40- 50	289.6	989.9	47.9
60	172.1	362.0	532.9	174.0	119.0	162.8	512.1	358.5	50- 60	290.5	1280	61.9
70	102.9	253.3	476.4	141.1	77.69	131.0	504.2	259.7	60- 70	272.5	1553	75.1
80	54.75	156.8	322.9	109.3	43.16	98.90	364.9	173.3	70- 80	220.3	1773	85.7
90	24.60	90.53	172.1	74.82	20.84	67.41	184.6	106.3	80- 90	141.7	1915	92.6
100	11.72	50.18	86.16	46.16	10.58	42.28	87.80	60.89	90-100	76.95	1992	96.3
110	7.392	27.12	45.71	26.06	6.049	24.92	46.36	32.93	100-110	39.58	2031	98.2
120	4.114	13.05	25.95	13.36	2.462	13.68	26.52	16.17	110-120	19.91	2051	99.2
130	0.4389	5.426	14.25	6.208	0.7360	6.993	15.32	6.578	120-130	9.199	2060	99.6
140	0.4347	2.827	6.830	3.453	1.138	3.729	7.910	2.986	130-140	4.066	2065	99.8
150	0.4347	2.195	3.566	2.815	1.204	2.762	3.771	2.147	140-150	1.863	2066	99.9
160	0.6019	1.496	2.298	1.909	1.204	1.997	2.402	1.643	150-160	0.9461	2067	100
170	0.7356	1.131	1.267	1.375	1.137	1.132	1.103	1.107	160-170	0.3970	2068	100
180	0.7691	1.098	1.100	1.174	1.137	1.098	1.101	1.107	170-180	0.1063	2068	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

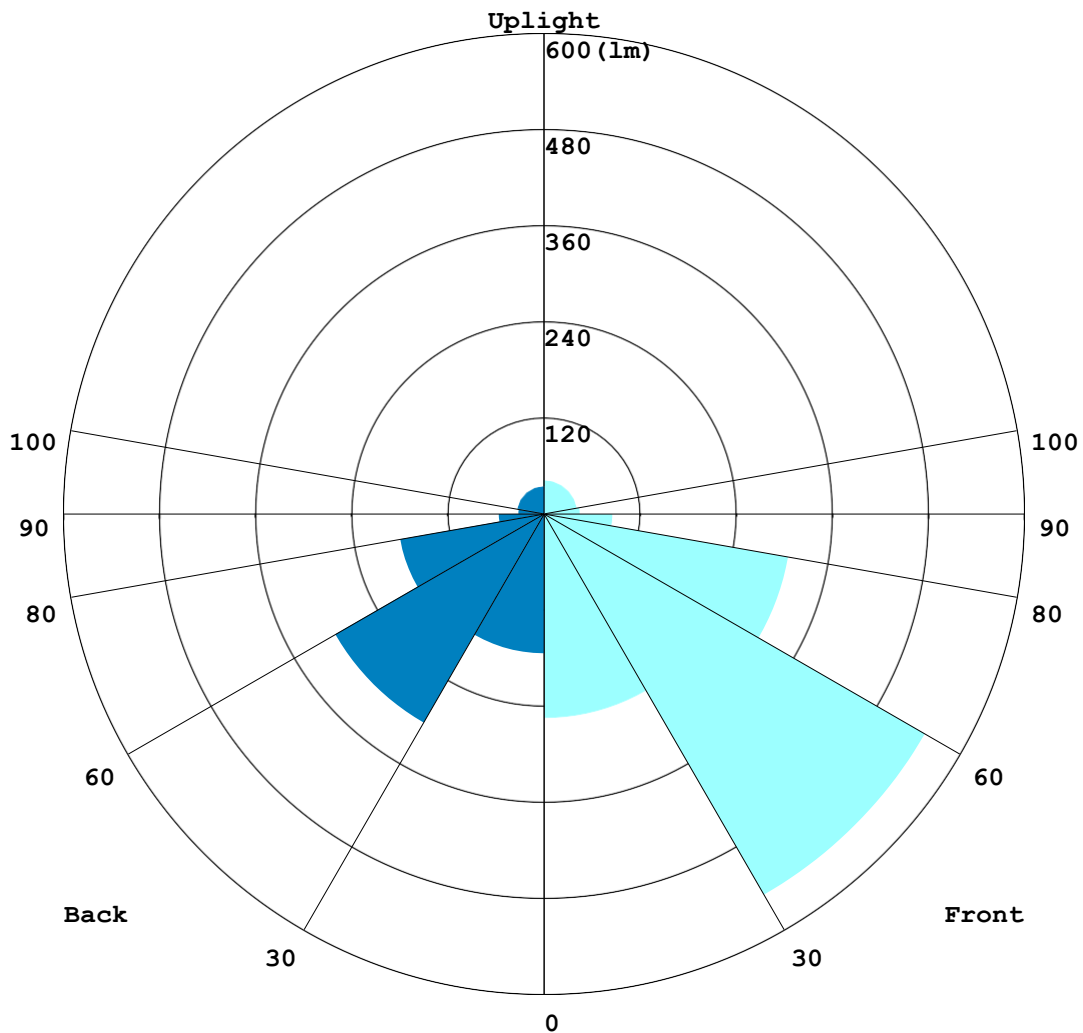
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators:Bala
 Test Date:11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance:26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

LCS REPORT

Test:U:24.000V I:0.7837A P:18.809W PF:1.0000 Freq:0Hz Lamp Flux:2067.83x1 lm		
NAME: 600600130	TYPE: LED Luminaire	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux Inc.	SUR.:	Shielding Angle:

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators: Bala
 Test Date: 11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance: 26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

BUG REPORT

Test:U:24.000V I:0.7837A P:18.809W PF:1.0000 Freq:0Hz Lamp Flux:2067.83x1 lm		
NAME: 600600130	TYPE: LED Luminaire	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux Inc.	SUR.:	Shielding Angle:

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	254.83	12.3
FM - Front-Medium(30-60)	550.03	26.6
FH - Front-High(60-80)	310.18	15.0
FVH - Front-Very High(80-90)	85.476	4.1
Total Forward Light	1287.5	62.3

BL - Back-Low(0-30)	174.38	8.4
BM - Back-Medium(30-60)	301.13	14.6
BH - Back-High(60-80)	182.59	8.8
BVH - Back-Very High(80-90)	56.203	2.7
Total Back Light	780.34	37.7

UL - Uplight-Low(90-100)	76.949	3.7
UH - Uplight-High(100-180)	76.067	3.7
Total Up Light	153.02	7.4

BUG (Back, Up, Glare) Rating	B1-U3-G1
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	714.31	66.035	780.34
Street Side	1200.5	86.98	1287.5

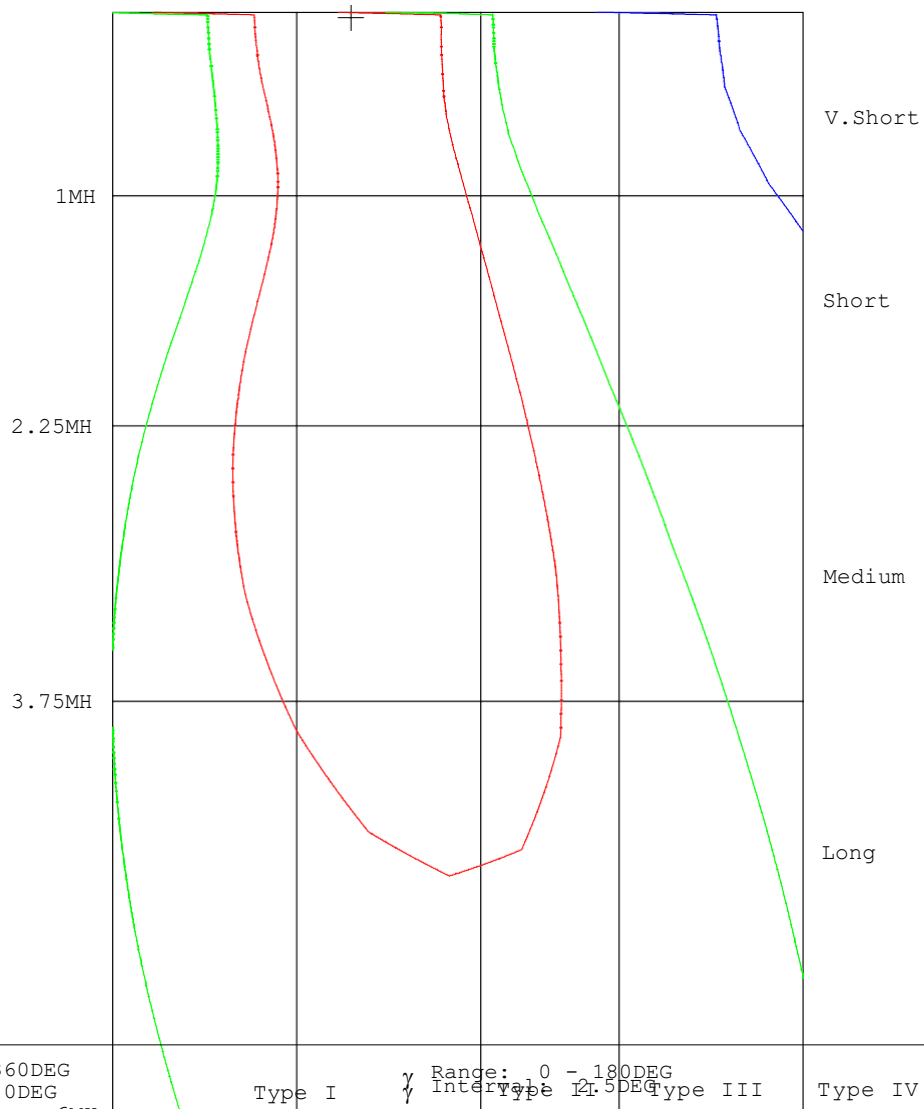
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators:Bala
 Test Date:11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance:26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

ROAD ISOCANDELA REPORT

Test:U:24.000V I:0.7837A P:18.809W PF:1.0000 Freq:0Hz Lamp Flux:2067.83x1 lm		
NAME: 600600130	TYPE: LED Luminaire	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux Inc.	SUR.:	Shielding Angle:

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH 6MH
Temperature: 26.0°C 1MH
Operators: Bala
Test Date: 11 December 2023

γ Range: 0 - 180DEG
γ Interval: 4.5DEG
Test System: EVERFINE GO-R5000 V2 SYSTEM V2.00.463
Humidity: 2010% 5MH
Test Distance: 26.000m [K=0.8358] 1.751

70% 441.02
Pavement

20% 126
Roadmarks: LED Luminaire with individual LED lens optics

50% 315.01 5% 31.501

Photometric Data Table [cd]

G/C	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0
0.0	560.2	560.6	560.2	559.8	559.8	560.0	559.1	559.1	560.4	559.5
2.5	578.8	578.3	578.1	577.7	577.0	576.8	575.4	575.4	574.4	573.2
5.0	594.8	594.6	594.3	593.1	592.3	591.6	589.3	587.5	586.8	585.1
7.5	608.7	608.5	607.5	607.1	605.5	603.9	601.0	599.7	597.0	594.6
10.0	618.7	620.1	618.0	617.6	616.4	614.0	611.4	608.7	605.4	603.0
12.5	625.8	626.4	626.0	625.4	623.8	621.8	618.1	615.5	611.6	608.9
15.0	629.0	631.0	629.7	629.4	626.5	625.3	622.0	619.5	615.6	612.0
17.5	629.0	629.0	629.1	629.0	627.3	625.6	622.3	620.5	617.6	614.9
20.0	623.7	623.5	623.1	623.2	623.0	621.8	619.4	619.1	617.7	614.6
22.5	612.5	613.0	612.4	614.1	614.5	614.8	613.8	614.8	614.0	612.0
25.0	596.1	597.5	597.0	599.1	600.9	603.1	604.4	605.6	608.3	607.7
27.5	574.2	574.1	575.8	580.1	583.2	587.3	591.5	594.6	598.4	601.4
30.0	547.4	548.2	550.7	556.3	560.7	567.6	575.6	580.3	588.0	595.3
32.5	516.8	517.6	521.5	528.1	535.2	544.0	554.9	564.8	575.6	585.1
35.0	482.8	484.4	489.1	496.7	506.0	518.3	531.7	545.1	559.8	572.8
37.5	447.4	449.5	452.8	463.8	475.0	489.3	505.8	523.4	541.6	558.8
40.0	410.3	412.8	417.9	428.8	442.1	459.1	478.1	499.3	522.3	543.4
42.5	373.6	376.4	383.2	394.8	409.2	427.2	449.5	472.5	500.4	526.4
45.0	338.7	340.7	348.4	359.3	376.1	395.8	419.7	446.9	476.5	506.4
47.5	304.8	308.1	314.8	326.8	344.4	364.8	390.1	419.2	452.3	485.6
50.0	273.8	276.0	284.9	295.1	313.0	334.2	361.1	392.3	425.8	463.5
52.5	244.8	247.3	254.4	266.7	284.0	305.6	332.1	364.2	400.0	439.4
55.0	218.5	221.2	228.5	239.3	256.1	278.0	304.2	336.6	373.4	417.2
57.5	193.9	196.9	204.2	215.5	230.4	253.0	278.1	310.0	347.0	389.3
60.0	172.1	175.2	182.1	192.9	206.7	226.7	252.9	283.3	321.0	362.0
62.5	152.5	155.6	161.9	172.4	186.4	204.8	228.8	257.7	293.5	334.5
65.0	134.7	137.5	143.7	153.6	166.5	184.3	206.3	233.4	266.8	307.5
67.5	118.1	120.9	126.7	136.0	148.5	164.6	185.2	210.3	242.4	280.3
70.0	102.9	105.6	111.5	120.0	131.7	147.3	165.8	189.0	217.7	253.3
72.5	89.19	91.57	97.31	105.7	116.6	130.4	148.0	168.6	195.4	227.4
75.0	76.66	79.14	85.20	92.88	103.2	116.1	131.0	150.5	173.9	202.2
77.5	65.13	67.86	73.95	81.00	90.62	102.2	115.9	133.2	154.0	179.3
80.0	54.75	57.42	62.75	70.22	79.44	89.91	102.2	117.4	135.6	156.8
82.5	45.45	47.95	53.44	60.54	68.88	78.77	90.01	103.2	118.8	137.2
85.0	37.10	39.50	44.99	51.85	59.88	68.81	79.08	89.80	104.2	120.2
87.5	29.95	32.36	37.37	44.00	51.32	59.86	68.78	78.69	90.72	104.2
90.0	24.60	26.49	31.13	37.21	44.11	51.62	59.36	68.91	79.22	90.53
92.5	20.09	21.61	25.69	31.46	37.70	44.70	51.69	60.09	68.78	78.43
95.0	16.44	17.54	21.04	26.14	31.84	38.08	44.68	51.60	59.45	67.29
97.5	13.65	14.36	17.37	21.69	26.83	32.50	38.44	44.40	51.16	58.54
100.0	11.72	12.13	14.20	18.02	22.46	27.60	32.85	38.48	44.15	50.18
102.5	10.50	10.62	11.82	14.97	18.91	23.58	28.07	32.85	37.95	43.14
105.0	9.400	9.489	10.02	12.37	15.80	19.61	23.80	28.28	32.56	37.09
107.5	8.363	8.453	8.689	10.16	13.00	16.33	20.11	23.87	27.88	31.75
110.0	7.392	7.416	7.684	8.390	10.58	13.52	16.76	20.19	23.68	27.12
112.5	6.491	6.516	6.749	7.090	8.518	10.95	13.80	16.81	20.00	22.90
115.0	5.686	5.645	5.846	6.084	6.879	8.711	11.13	13.80	16.62	19.27
117.5	4.884	4.843	5.044	5.282	5.645	6.877	8.795	11.11	13.60	16.05
120.0	4.114	4.140	4.274	4.478	4.674	5.437	6.759	8.476	10.77	13.05
122.5	3.413	3.402	3.569	3.739	3.803	4.037	4.964	6.452	8.279	10.37
125.0	2.321	2.242	2.342	2.411	2.542	2.877	3.773	4.932	6.362	8.152
127.5	0.7888	0.7050	0.8388	1.206	1.774	2.342	2.906	3.800	5.032	6.591
130.0	0.4389	0.4351	0.7025	1.038	1.472	2.007	2.371	3.100	4.164	5.426
132.5	0.4347	0.4347	0.6354	0.9706	1.371	1.806	2.202	2.665	3.462	4.491
135.0	0.4347	0.4347	0.6354	0.9372	1.338	1.772	2.169	2.466	2.964	3.728
137.5	0.4347	0.4347	0.6354	0.9371	1.338	1.705	2.068	2.398	2.696	3.192
140.0	0.4347	0.4347	0.6354	0.9371	1.304	1.638	1.935	2.265	2.529	2.827
142.5	0.4347	0.4347	0.6354	0.9371	1.237	1.538	1.835	2.131	2.330	2.595
145.0	0.4347	0.4347	0.6354	0.9369	1.170	1.437	1.668	1.932	2.229	2.494
147.5	0.4347	0.4347	0.6354	0.9033	1.104	1.337	1.601	1.832	2.063	2.328
150.0	0.4347	0.4350	0.6354	0.8702	1.071	1.303	1.501	1.765	1.997	2.195
152.5	0.4678	0.4682	0.6354	0.8702	1.070	1.204	1.401	1.632	1.864	1.996
155.0	0.5012	0.5016	0.6354	0.8702	1.004	1.204	1.302	1.533	1.665	1.830
157.5	0.6009	0.6020	0.6354	0.8702	1.037	1.103	1.201	1.332	1.465	1.663
160.0	0.6019	0.6351	0.6357	0.8702	0.9702	1.070	1.168	1.233	1.331	1.496
162.5	0.6019	0.6022	0.6689	0.8702	0.9702	1.070	1.168	1.199	1.298	1.330
165.0	0.7022	0.6361	0.6692	0.8702	0.9702	1.070	1.134	1.166	1.231	1.231
167.5	0.7352	0.7026	0.7023	0.8702	0.9702	1.037	1.068	1.132	1.165	1.197
170.0	0.7356	0.7356	0.7357	0.8702	0.9702	1.037	1.068	1.099	1.132	1.131
172.5	0.7356	0.7691	0.7692	0.8702	0.9702	1.037	1.068	1.099	1.099	1.098
175.0	0.7689	0.7691	0.7692	0.8702	0.9702	1.037	1.068	1.099	1.099	1.098
177.5	0.7691	0.7691	0.7692	0.8702	0.9702	1.037	1.068	1.099	1.099	1.098
180.0	0.7691	0.7691	0.7692	0.8702	0.9702	1.037	1.068	1.099	1.099	1.098

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Photometric Data Table [cd]

G/C	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0
0.0	560.7	560.2	560.3	560.5	559.1	559.2	559.1	558.9	559.1	559.5
2.5	571.9	571.5	570.2	568.8	565.8	564.2	562.3	560.2	559.2	557.8
5.0	582.2	580.3	577.5	574.8	570.7	567.6	564.6	561.0	558.1	555.4
7.5	591.8	588.8	584.1	580.4	575.0	570.2	565.9	560.8	555.8	551.5
10.0	599.1	594.8	590.1	584.8	577.9	571.5	566.3	559.2	552.5	545.6
12.5	604.6	599.9	594.7	588.1	579.9	573.5	565.5	556.8	549.7	540.8
15.0	608.8	603.3	596.9	590.2	581.4	573.2	564.0	553.5	544.6	534.4
17.5	609.8	604.4	598.7	591.4	581.7	572.8	562.3	550.7	539.3	528.1
20.0	610.3	605.7	599.4	591.5	581.9	571.4	561.2	546.7	534.0	520.6
22.5	608.8	606.2	599.1	591.8	581.3	570.0	558.4	542.8	528.4	513.7
25.0	607.2	604.6	598.9	591.8	580.9	568.9	554.4	539.2	522.5	506.3
27.5	604.3	602.4	598.1	591.4	577.6	567.9	551.6	536.1	516.9	498.7
30.0	597.3	599.4	596.9	591.1	579.6	567.2	551.5	533.1	512.4	492.3
32.5	592.4	595.9	595.6	591.1	581.2	567.3	550.6	530.3	507.9	486.0
35.0	585.2	592.0	593.5	591.1	582.4	568.7	550.7	529.0	505.3	480.9
37.5	575.0	586.1	591.4	591.3	583.9	570.6	552.2	529.2	503.0	477.2
40.0	564.3	579.0	588.9	591.1	585.8	573.6	554.2	530.9	502.9	475.0
42.5	551.7	571.9	585.3	591.1	588.1	577.6	558.6	534.0	504.0	473.3
45.0	536.7	561.9	581.0	591.1	590.1	582.3	563.3	538.6	507.5	474.4
47.5	520.1	550.1	574.4	588.8	592.5	586.9	568.5	544.0	512.3	476.9
50.0	502.0	536.6	566.2	586.0	594.7	590.1	575.7	550.1	517.5	480.6
52.5	480.6	521.8	555.1	579.1	594.3	592.0	580.9	555.9	523.5	484.5
55.0	459.3	502.1	541.0	570.8	586.4	594.4	584.0	561.1	528.0	490.1
57.5	434.9	483.1	524.3	559.3	581.6	592.6	586.2	563.7	532.4	494.7
60.0	409.3	458.7	503.0	544.6	571.8	585.4	581.4	562.0	532.9	493.2
62.5	382.0	432.0	481.2	526.0	557.0	574.2	575.1	556.5	526.9	490.0
65.0	353.7	404.1	454.1	501.1	535.0	555.8	561.8	545.4	516.8	480.0
67.5	325.2	372.8	423.6	471.9	509.5	531.6	538.4	526.7	500.0	466.1
70.0	294.0	340.7	390.4	438.0	475.5	500.6	509.2	498.9	476.4	441.9
72.5	265.9	308.1	353.3	403.7	438.3	464.6	474.6	464.7	443.5	413.9
75.0	237.4	275.8	318.0	359.7	395.6	421.9	432.4	424.9	407.1	380.5
77.5	209.4	244.6	282.6	318.9	350.4	375.4	385.8	381.4	365.4	343.5
80.0	184.1	214.5	247.0	279.8	307.6	328.8	339.1	335.9	322.9	302.4
82.5	160.7	186.8	214.9	242.2	266.2	284.3	292.3	290.2	280.5	264.1
85.0	139.1	161.1	183.6	207.0	227.1	242.3	250.4	249.0	240.7	227.9
87.5	121.3	138.6	157.0	175.7	191.9	205.1	211.3	209.9	203.5	193.7
90.0	104.1	119.1	134.0	148.7	162.2	171.9	177.0	176.4	172.1	163.8
92.5	89.62	102.0	113.7	126.2	136.1	144.1	148.3	148.2	144.7	138.7
95.0	77.14	86.91	97.05	106.5	114.6	120.6	123.9	123.7	121.2	117.1
97.5	66.26	74.27	82.82	89.96	96.48	101.2	103.8	104.0	102.2	98.93
100.0	56.91	63.78	70.19	75.85	81.06	84.34	86.79	87.22	86.16	83.57
102.5	48.51	54.21	59.92	64.55	68.54	71.75	73.37	73.06	73.06	71.24
105.0	41.59	46.08	50.85	55.04	58.44	60.54	62.29	62.77	62.32	61.03
107.5	35.68	39.48	43.28	46.75	49.49	51.71	53.15	53.69	53.42	52.48
110.0	30.48	33.82	37.12	39.92	42.61	44.14	45.37	45.82	45.71	45.11
112.5	26.03	28.87	31.58	34.25	36.41	38.03	39.12	39.47	39.53	39.13
115.0	22.03	24.57	27.05	29.41	31.21	32.73	33.73	34.29	34.28	33.99
117.5	18.45	20.75	23.03	25.16	26.86	28.28	29.17	29.66	29.88	29.59
120.0	15.18	17.42	19.57	21.50	23.11	24.38	25.27	25.79	25.95	25.79
122.5	12.40	14.60	16.55	18.28	19.82	20.96	21.84	22.26	22.52	22.39
125.0	10.16	12.09	13.91	15.51	16.89	17.95	18.76	19.25	19.42	19.35
127.5	8.325	9.960	11.55	13.05	14.27	15.33	16.06	16.52	16.71	16.68
130.0	6.793	8.194	9.585	10.89	11.90	12.86	13.55	14.02	14.25	14.21
132.5	5.590	6.723	7.882	8.982	9.903	10.75	11.38	11.77	11.94	11.94
135.0	4.594	5.529	6.456	7.358	8.147	8.895	9.450	9.811	10.01	9.977
137.5	3.824	4.590	5.351	6.084	6.708	7.320	7.769	8.066	8.263	8.265
140.0	3.259	3.826	4.421	4.988	5.545	6.021	6.400	6.666	6.830	6.830
142.5	2.961	3.327	3.724	4.157	4.585	4.992	5.302	5.501	5.634	5.601
145.0	2.761	2.961	3.258	3.558	3.852	4.159	4.400	4.565	4.697	4.697
147.5	2.594	2.828	2.993	3.160	3.389	3.593	3.767	3.866	3.998	3.965
150.0	2.460	2.661	2.826	3.026	3.156	3.262	3.369	3.435	3.566	3.566
152.5	2.163	2.429	2.594	2.761	2.925	3.030	3.136	3.202	3.235	3.268
155.0	1.964	2.164	2.329	2.496	2.660	2.797	2.870	2.936	3.002	2.969
157.5	1.797	1.963	2.095	2.229	2.293	2.364	2.502	2.568	2.634	2.634
160.0	1.563	1.697	1.862	2.028	2.059	2.129	2.200	2.232	2.298	2.299
162.5	1.397	1.530	1.628	1.662	1.727	1.730	1.700	1.800	1.866	1.833
165.0	1.297	1.298	1.298	1.430	1.462	1.464	1.468	1.566	1.632	1.698
167.5	1.230	1.297	1.296	1.298	1.362	1.332	1.400	1.367	1.399	1.400
170.0	1.132	1.198	1.198	1.265	1.230	1.299	1.268	1.301	1.267	1.301
172.5	1.131	1.132	1.131	1.165	1.163	1.199	1.201	1.234	1.201	1.267
175.0	1.132	1.132	1.131	1.165	1.130	1.165	1.168	1.168	1.167	1.200
177.5	1.165	1.132	1.131	1.165	1.164	1.132	1.168	1.134	1.134	1.133
180.0	1.198	1.132	1.131	1.165	1.197	1.099	1.168	1.101	1.100	1.067

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators: Bala
 Test Date: 11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance: 26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

Test Report No. P190C-R1

Photometric Data Table [cd]

G/C	100.0	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0
0.0	558.8	558.8	558.7	558.5	558.6	558.5	559.1	558.6	559.3	558.9
2.5	555.3	553.5	551.7	550.6	548.9	547.2	546.1	544.9	543.9	542.5
5.0	551.4	547.3	543.9	540.6	537.7	534.8	531.8	529.1	527.6	524.5
7.5	545.5	540.2	535.6	530.3	525.7	521.1	516.3	512.7	509.6	505.3
10.0	539.3	532.0	526.0	518.2	512.8	506.6	500.2	495.2	490.5	485.2
12.5	531.8	523.7	515.1	506.1	498.4	491.0	483.5	477.1	470.4	464.1
15.0	524.1	513.5	503.3	493.2	483.9	474.6	465.9	457.7	449.6	442.1
17.5	517.2	503.4	491.3	479.9	468.5	458.1	447.6	437.6	428.2	420.2
20.0	506.9	493.3	479.4	465.4	452.8	440.8	428.8	417.4	406.9	397.7
22.5	497.8	482.6	466.6	451.0	436.4	423.2	410.0	397.0	385.8	375.8
25.0	488.5	471.8	454.0	436.3	420.2	405.6	391.1	377.1	364.7	354.2
27.5	479.7	461.0	440.8	421.1	404.0	387.7	371.7	357.4	344.1	332.9
30.0	471.1	450.2	428.4	407.7	387.7	369.5	353.5	338.1	324.1	312.3
32.5	463.7	439.3	415.7	392.9	372.3	352.8	335.6	319.5	306.0	293.0
35.0	455.6	429.2	405.1	379.9	356.8	335.8	317.4	301.6	285.9	274.6
37.5	448.8	420.7	393.9	366.9	342.3	320.6	300.3	284.4	268.2	257.5
40.0	444.1	412.9	383.4	353.4	328.6	305.0	285.3	268.0	252.4	240.7
42.5	440.5	406.8	375.3	344.3	315.8	291.7	270.2	252.8	237.8	225.3
45.0	439.0	403.2	368.3	333.7	304.9	278.8	257.3	238.3	223.3	211.4
47.5	438.9	400.8	362.9	326.6	294.4	267.3	244.3	225.6	210.4	198.4
50.0	440.0	399.9	359.4	320.3	285.8	256.5	232.8	213.8	198.2	186.0
52.5	442.6	399.5	355.7	314.0	277.7	247.4	223.0	202.7	186.5	174.5
55.0	444.8	400.8	353.9	310.0	271.4	237.5	212.9	191.9	176.2	163.7
57.5	447.1	400.3	351.6	305.3	264.7	230.3	204.4	183.1	166.6	154.3
60.0	446.9	399.2	349.4	300.9	259.4	223.0	196.0	174.0	157.2	144.7
62.5	445.1	395.7	344.9	295.8	252.6	217.1	188.4	165.3	148.5	135.6
65.0	437.6	388.6	338.9	289.6	246.6	209.8	180.1	157.3	140.5	126.7
67.5	423.1	377.2	329.6	280.8	238.7	202.2	172.5	150.4	132.2	119.7
70.0	403.1	360.6	314.6	270.1	229.4	193.5	164.6	141.1	124.8	111.4
72.5	377.7	338.6	296.4	257.5	218.3	183.8	156.4	133.8	116.5	103.9
75.0	348.0	313.5	277.3	240.2	204.5	173.7	147.2	125.8	109.0	96.24
77.5	314.8	285.2	253.8	220.7	189.6	161.0	137.2	117.6	101.9	89.01
80.0	279.8	253.4	228.5	200.1	173.7	148.7	127.0	109.3	94.15	81.89
82.5	244.9	224.4	202.4	180.2	157.5	136.3	117.1	100.7	86.43	75.09
85.0	211.3	195.0	177.9	159.1	141.0	123.3	106.1	91.90	79.16	68.54
87.5	181.0	168.1	154.3	140.0	125.0	110.0	96.23	83.15	71.87	62.10
90.0	154.7	144.4	133.7	122.1	110.5	97.76	86.50	74.82	64.78	56.12
92.5	130.8	123.1	115.1	105.7	96.66	85.83	77.12	67.40	58.35	50.15
95.0	111.8	105.4	98.95	91.39	83.80	75.83	67.97	59.76	52.06	44.67
97.5	94.34	89.77	84.90	79.07	72.79	66.58	59.67	52.75	45.82	39.42
100.0	80.45	76.83	72.70	67.95	63.03	57.94	52.16	46.16	40.28	34.53
102.5	69.00	65.95	62.75	58.92	54.12	49.91	45.47	40.34	35.14	30.10
105.0	59.63	56.55	53.80	50.82	47.11	43.51	39.29	35.09	30.49	25.87
107.5	50.53	49.05	46.47	43.93	40.98	37.70	34.40	30.33	26.21	22.10
110.0	44.11	41.97	40.44	38.11	35.50	32.55	29.14	26.06	22.38	18.72
112.5	38.07	36.57	35.17	32.99	30.77	28.18	25.20	22.25	19.01	15.68
115.0	33.12	32.09	30.59	28.77	26.63	24.30	21.71	18.86	15.89	12.91
117.5	28.85	27.99	26.65	24.98	23.06	20.86	18.53	15.95	13.15	10.47
120.0	25.15	24.38	23.21	21.67	19.88	17.89	15.69	13.36	10.84	8.235
122.5	21.93	21.15	20.14	18.74	17.15	15.26	13.22	11.09	8.799	6.472
125.0	18.98	18.34	17.36	16.09	14.63	12.93	11.12	9.126	7.072	5.247
127.5	16.32	15.73	14.88	13.72	12.40	10.91	9.249	7.517	5.766	4.278
130.0	13.92	13.40	12.58	11.55	10.43	9.060	7.673	6.208	4.826	3.609
132.5	11.71	11.28	10.60	9.711	8.682	7.550	6.362	5.198	4.086	3.174
135.0	9.777	9.388	8.830	8.049	7.219	6.286	5.328	4.395	3.552	2.974
137.5	8.065	7.774	7.315	6.703	6.007	5.242	4.519	3.788	3.282	2.873
140.0	6.664	6.439	6.078	5.568	5.039	4.475	3.917	3.453	3.114	2.806
142.5	5.534	5.340	5.045	4.671	4.307	3.875	3.550	3.253	3.047	2.739
145.0	4.631	4.470	4.275	4.035	3.772	3.541	3.382	3.151	2.880	2.638
147.5	3.932	3.871	3.741	3.603	3.505	3.340	3.214	2.983	2.778	2.504
150.0	3.500	3.538	3.441	3.369	3.271	3.173	3.045	2.815	2.544	2.371
152.5	3.268	3.239	3.175	3.137	3.039	2.906	2.679	2.448	2.378	2.205
155.0	3.002	3.006	2.942	2.871	2.706	2.540	2.378	2.314	2.211	2.038
157.5	2.601	2.570	2.507	2.436	2.404	2.338	2.243	2.146	2.043	1.703
160.0	2.299	2.235	2.272	2.235	2.136	2.004	1.973	1.909	1.573	1.437
162.5	1.800	1.869	1.904	1.900	1.867	1.801	1.539	1.442	1.373	1.437
165.0	1.665	1.699	1.602	1.500	1.368	1.336	1.340	1.375	1.373	1.436
167.5	1.366	1.336	1.370	1.336	1.269	1.303	1.306	1.342	1.373	1.403
170.0	1.267	1.336	1.304	1.335	1.269	1.303	1.306	1.375	1.340	1.403
172.5	1.267	1.236	1.270	1.235	1.269	1.270	1.273	1.274	1.273	1.303
175.0	1.233	1.202	1.203	1.202	1.269	1.236	1.239	1.241	1.272	1.236
177.5	1.133	1.135	1.170	1.202	1.168	1.203	1.206	1.207	1.172	1.169
180.0	1.033	1.068	1.136	1.202	1.068	1.169	1.172	1.174	1.071	1.102

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Photometric Data Table [cd]

G/C	150.0	155.0	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0
0.0	558.4	558.6	559.0	559.3	559.3	558.8	560.2	560.6	560.2	559.8
2.5	541.0	540.1	540.0	540.2	539.0	539.2	540.2	540.3	540.8	540.9
5.0	522.0	520.5	519.4	518.4	517.6	517.2	518.3	518.3	519.0	519.9
7.5	502.1	499.7	497.5	496.0	495.2	493.9	495.3	495.7	495.9	497.4
10.0	480.7	477.4	474.9	472.6	470.9	470.1	470.7	471.2	472.1	473.8
12.5	459.5	454.7	451.2	448.1	446.3	445.1	445.6	446.1	447.1	449.2
15.0	436.3	430.9	426.8	423.3	421.1	419.8	420.1	420.6	421.9	424.1
17.5	413.2	407.3	402.4	398.6	395.6	394.4	394.6	395.1	396.9	399.2
20.0	390.2	383.6	378.2	373.9	370.7	369.3	369.7	370.3	372.0	374.9
22.5	367.6	360.1	354.6	349.9	346.8	344.7	345.6	346.3	347.8	350.5
25.0	345.3	337.7	332.1	326.9	323.0	321.1	322.2	322.6	324.5	327.2
27.5	323.6	316.5	310.7	305.2	301.3	300.1	300.1	300.8	302.3	305.1
30.0	303.2	296.2	290.3	285.1	280.8	280.5	280.2	280.7	282.4	285.1
32.5	283.5	276.8	271.3	266.5	263.0	261.0	261.5	262.2	263.2	266.5
35.0	265.2	258.5	253.5	249.1	246.0	244.4	244.8	245.1	246.5	249.2
37.5	248.1	241.8	236.9	232.5	229.9	228.1	229.0	229.4	230.8	232.9
40.0	232.0	225.7	222.2	218.0	215.6	214.8	214.4	214.7	216.0	217.6
42.5	217.0	211.3	207.7	203.7	201.6	200.6	200.8	201.0	202.2	203.8
45.0	202.9	197.4	193.7	190.4	188.5	187.6	187.8	188.1	189.2	190.9
47.5	189.9	184.3	181.4	178.3	176.0	175.3	175.5	176.0	176.9	178.5
50.0	177.8	172.3	169.0	166.4	164.2	163.9	163.7	164.3	165.1	166.6
52.5	166.2	160.7	157.1	155.1	152.8	151.7	152.3	152.8	153.8	155.2
55.0	155.1	150.0	146.2	143.7	141.6	141.0	141.0	141.6	142.7	144.4
57.5	145.5	139.6	135.5	132.7	130.3	129.9	129.9	130.5	131.6	133.3
60.0	135.6	129.9	125.2	122.1	119.9	118.9	119.0	119.5	120.9	122.9
62.5	126.7	120.1	115.4	112.1	109.8	108.3	108.3	109.0	110.5	112.8
65.0	117.7	111.7	105.9	102.4	98.71	97.26	97.76	98.58	100.1	102.9
67.5	109.8	102.3	97.28	92.91	89.11	88.08	87.52	88.34	90.42	93.30
70.0	101.4	94.17	88.62	83.82	80.39	78.13	77.69	78.54	80.86	84.79
72.5	93.97	86.66	80.48	75.51	71.26	68.88	68.05	69.18	72.21	76.43
75.0	86.58	79.25	72.81	67.30	63.15	60.03	59.08	60.53	63.98	68.48
77.5	79.36	72.08	65.45	59.76	54.94	51.61	50.80	52.49	56.35	61.01
80.0	72.58	65.01	58.66	53.07	47.58	44.07	43.16	45.14	49.13	54.08
82.5	66.34	58.48	52.36	46.33	41.19	37.27	36.32	38.50	42.65	47.67
85.0	59.81	52.75	46.02	40.31	35.27	31.49	30.23	32.49	36.74	41.75
87.5	54.00	46.96	40.75	34.97	29.94	26.08	25.11	27.36	31.42	36.36
90.0	47.94	41.55	35.72	30.20	25.34	21.69	20.84	22.98	26.86	31.47
92.5	43.17	36.97	31.22	25.97	21.45	18.14	17.40	19.23	22.81	27.28
95.0	38.36	32.52	27.06	22.07	17.89	15.08	14.62	16.08	19.39	23.46
97.5	33.52	28.23	23.12	18.54	14.84	12.56	12.29	13.54	16.25	19.98
100.0	28.99	24.12	19.61	15.52	12.29	10.82	10.58	11.33	13.54	16.90
102.5	25.04	20.60	16.41	12.86	10.27	9.438	9.216	9.715	11.29	14.15
105.0	21.40	17.36	13.66	10.61	8.592	8.295	8.080	8.358	9.431	11.75
107.5	18.14	14.45	11.24	8.630	7.386	7.256	7.021	7.288	7.825	9.705
110.0	15.17	11.83	9.058	6.984	6.444	6.312	6.049	6.287	6.589	7.933
112.5	12.47	9.598	7.182	5.778	5.573	5.408	5.146	5.382	5.685	6.425
115.0	10.09	7.550	5.667	4.901	4.730	4.598	4.345	4.583	4.818	5.258
117.5	7.896	5.714	4.359	4.025	3.854	3.722	3.570	3.813	4.015	4.252
120.0	6.028	4.242	3.118	2.815	2.642	2.540	2.462	2.677	2.911	3.116
122.5	4.566	3.175	2.382	1.814	1.741	1.006	0.8336	1.003	1.405	1.908
125.0	3.539	2.478	1.983	1.513	1.008	0.6395	0.6353	0.8362	1.204	1.507
127.5	3.068	2.310	1.814	1.412	0.9745	0.6387	0.7022	0.9026	1.237	1.439
130.0	2.738	2.243	1.780	1.345	0.9744	0.6387	0.7360	0.9694	1.237	1.439
132.5	2.637	2.243	1.780	1.345	0.9744	0.6387	0.8374	1.037	1.271	1.439
135.0	2.571	2.243	1.780	1.345	0.9744	0.6387	1.004	1.170	1.271	1.439
137.5	2.537	2.176	1.780	1.345	0.9744	0.7062	1.103	1.170	1.271	1.439
140.0	2.470	2.142	1.780	1.345	0.9744	0.7397	1.138	1.170	1.271	1.439
142.5	2.403	2.142	1.780	1.345	0.9746	0.8071	1.204	1.170	1.271	1.439
145.0	2.370	2.075	1.746	1.345	1.042	0.8744	1.204	1.170	1.271	1.439
147.5	2.302	2.007	1.645	1.345	1.076	0.9423	1.204	1.170	1.271	1.439
150.0	2.169	1.873	1.579	1.345	1.142	1.076	1.204	1.170	1.271	1.439
152.5	2.102	1.673	1.579	1.345	1.142	1.143	1.204	1.204	1.271	1.439
155.0	1.703	1.540	1.579	1.345	1.142	1.143	1.204	1.137	1.271	1.406
157.5	1.535	1.540	1.612	1.345	1.176	1.177	1.204	1.104	1.237	1.372
160.0	1.469	1.540	1.478	1.345	1.176	1.177	1.204	1.104	1.171	1.272
162.5	1.469	1.539	1.478	1.345	1.176	1.177	1.203	1.104	1.171	1.171
165.0	1.435	1.439	1.444	1.345	1.176	1.177	1.170	1.104	1.104	1.138
167.5	1.402	1.406	1.444	1.345	1.176	1.177	1.137	1.070	1.104	1.071
170.0	1.369	1.372	1.411	1.345	1.176	1.177	1.137	1.004	1.037	1.071
172.5	1.302	1.305	1.276	1.311	1.176	1.177	1.137	0.9368	0.9704	0.9712
175.0	1.235	1.272	1.309	1.277	1.176	1.177	1.137	0.9363	0.9365	0.9038
177.5	1.202	1.205	1.175	1.210	1.176	1.177	1.137	0.8366	0.8033	0.8038
180.0	1.168	1.138	1.040	1.143	1.176	1.177	1.137	0.7691	0.7692	0.7698

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Test Report No. P190C-R1

Photometric Data Table [cd]

G/C	200.0	205.0	210.0	215.0	220.0	225.0	230.0	235.0	240.0	245.0
0.0	559.8	560.0	559.1	559.1	560.4	559.5	560.7	560.2	560.3	560.5
2.5	540.7	541.9	541.1	543.4	543.9	545.0	547.4	548.4	549.3	551.2
5.0	520.6	522.0	522.5	525.3	527.3	529.7	532.8	535.3	538.1	541.6
7.5	498.7	500.5	502.5	506.0	509.0	513.3	517.1	520.9	524.6	530.2
10.0	475.7	478.3	481.6	485.1	489.6	495.1	500.5	505.8	511.6	518.7
12.5	451.7	455.2	459.2	463.8	469.8	475.9	483.3	489.8	497.4	505.5
15.0	427.2	431.8	436.1	442.3	449.0	456.2	464.9	473.0	483.0	492.1
17.5	402.9	407.6	412.7	420.0	427.7	436.2	446.2	456.2	466.7	478.0
20.0	378.6	383.8	389.6	396.7	406.3	415.9	426.9	438.7	450.8	463.7
22.5	354.3	360.6	366.3	375.0	384.7	395.2	407.0	420.0	434.0	448.5
25.0	331.3	337.2	343.7	352.2	362.6	374.4	387.2	401.2	416.9	433.4
27.5	309.4	315.5	321.8	330.7	341.4	353.6	367.6	381.9	399.7	418.0
30.0	288.8	294.4	300.6	309.9	320.7	333.6	348.0	363.9	382.4	401.7
32.5	269.7	274.5	281.3	290.0	300.7	313.5	329.2	345.8	364.9	385.9
35.0	252.3	256.6	262.6	270.9	281.8	294.7	310.7	328.6	348.9	370.8
37.5	235.9	240.2	245.6	253.6	263.7	276.6	293.1	311.7	333.3	356.3
40.0	220.5	224.6	229.6	237.2	247.1	259.8	276.7	295.7	317.9	342.4
42.5	206.4	210.1	214.9	221.7	231.1	244.0	261.1	280.3	303.8	329.6
45.0	193.0	196.4	200.9	207.4	216.6	229.1	246.2	266.1	290.6	318.2
47.5	180.4	183.8	187.9	194.2	202.9	215.4	232.3	252.8	278.6	308.2
50.0	168.5	171.7	175.6	181.6	190.5	202.9	219.8	241.6	268.2	299.8
52.5	157.2	160.2	164.1	170.2	179.1	191.5	208.7	231.0	259.1	292.4
55.0	146.3	149.3	153.5	159.7	168.6	181.1	198.3	221.3	251.2	286.4
57.5	135.6	138.9	143.4	149.7	158.7	171.3	189.1	213.3	244.2	281.5
60.0	125.5	129.0	133.8	140.5	149.5	162.8	180.9	205.2	238.0	277.5
62.5	115.7	119.7	124.7	131.7	141.2	154.6	173.0	198.3	232.2	273.6
65.0	106.4	110.9	116.2	123.4	133.0	146.4	165.2	191.4	225.8	269.2
67.5	97.55	102.4	108.0	115.2	125.2	138.5	157.6	184.1	219.0	263.4
70.0	89.25	94.38	100.2	107.5	117.4	131.0	150.0	176.2	210.6	254.7
72.5	81.23	86.43	92.46	99.90	109.8	123.3	141.7	167.4	200.9	243.5
75.0	73.54	78.99	85.02	92.36	102.2	115.4	133.3	157.8	189.6	229.2
77.5	66.24	71.82	77.94	85.08	94.52	107.2	124.1	146.8	176.4	212.3
80.0	59.42	64.88	70.83	78.06	86.80	98.90	114.7	135.5	161.9	192.2
82.5	52.85	58.40	64.21	71.05	79.43	90.83	105.0	123.6	146.3	171.8
85.0	46.96	52.42	57.94	64.45	72.51	82.59	95.31	111.6	130.3	151.1
87.5	41.50	46.67	52.10	58.23	65.63	74.97	86.06	99.63	115.0	131.6
90.0	36.55	41.37	46.53	52.36	59.02	67.41	76.74	87.98	100.4	113.5
92.5	32.03	36.76	41.65	46.86	53.01	60.30	68.62	77.66	87.36	97.49
95.0	27.94	32.41	37.04	41.93	47.67	54.00	61.08	68.35	75.93	83.81
97.5	24.12	28.32	32.73	37.34	42.43	47.95	53.90	60.19	65.97	71.91
100.0	20.61	24.64	28.62	32.88	37.56	42.28	47.43	52.56	57.38	61.98
102.5	17.50	21.17	24.85	28.83	33.00	37.33	41.69	45.88	49.87	53.77
105.0	14.72	18.09	21.52	25.05	28.85	32.67	36.43	40.09	43.52	46.72
107.5	12.28	15.25	18.48	21.68	25.06	28.58	31.87	35.00	37.93	40.70
110.0	10.21	12.77	15.65	18.69	21.80	24.92	27.85	30.61	33.17	35.58
112.5	8.263	10.63	13.21	15.96	18.77	21.63	24.18	26.75	29.00	31.18
115.0	6.631	8.698	10.98	13.46	16.04	18.68	21.10	23.39	25.46	27.37
117.5	5.121	6.825	8.942	11.26	13.68	16.04	18.24	20.33	22.23	24.07
120.0	3.684	5.186	7.209	9.365	11.49	13.68	15.74	17.70	19.53	21.17
122.5	2.644	4.013	5.739	7.630	9.684	11.61	13.54	15.34	17.07	18.60
125.0	2.175	3.178	4.573	6.198	7.988	9.851	11.61	13.38	14.88	16.31
127.5	1.942	2.578	3.708	5.002	6.594	8.260	9.988	11.52	12.95	14.19
130.0	1.774	2.242	3.039	4.135	5.461	6.993	8.493	9.921	11.16	12.29
132.5	1.706	2.207	2.636	3.533	4.661	5.891	7.188	8.421	9.586	10.59
135.0	1.706	2.140	2.436	3.099	3.961	5.025	6.090	7.121	8.120	9.020
137.5	1.706	2.073	2.403	2.832	3.462	4.262	5.159	6.024	6.858	7.624
140.0	1.706	2.073	2.369	2.732	3.096	3.729	4.395	5.095	5.794	6.428
142.5	1.706	2.007	2.336	2.699	2.863	3.263	3.762	4.328	4.895	5.395
145.0	1.706	1.973	2.532	2.532	2.796	3.062	3.328	3.761	4.127	4.528
147.5	1.706	1.973	2.202	2.465	2.663	2.895	3.095	3.295	3.594	3.828
150.0	1.673	1.906	2.136	2.333	2.530	2.762	2.929	3.062	3.228	3.363
152.5	1.639	1.873	2.036	2.199	2.430	2.563	2.762	2.863	2.995	3.063
155.0	1.606	1.739	1.902	2.066	2.230	2.396	2.496	2.695	2.728	2.829
157.5	1.505	1.638	1.835	1.965	2.130	2.196	2.329	2.396	2.495	2.562
160.0	1.372	1.572	1.635	1.799	1.930	1.997	2.097	2.229	2.263	2.363
162.5	1.238	1.338	1.435	1.533	1.564	1.631	1.664	1.763	1.930	2.063
165.0	1.204	1.172	1.234	1.299	1.333	1.334	1.397	1.430	1.497	1.630
167.5	1.204	1.104	1.069	1.200	1.199	1.166	1.166	1.166	1.200	1.234
170.0	1.138	1.004	1.035	1.166	1.198	1.132	1.132	1.132	1.165	1.132
172.5	1.071	0.9700	1.034	1.067	1.099	1.098	1.098	1.098	1.098	1.098
175.0	0.9371	0.9698	1.034	1.066	1.099	1.098	1.098	1.098	1.098	1.098
177.5	0.8702	0.9698	1.034	1.066	1.099	1.098	1.098	1.098	1.098	1.098
180.0	0.8698	0.9698	1.034	1.066	1.099	1.098	1.098	1.098	1.098	1.098

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Test Report No. P190C-R1

Photometric Data Table [cd]

G/C	250.0	255.0	260.0	265.0	270.0	275.0	280.0	285.0	290.0	295.0
0.0	559.1	559.2	559.1	558.9	559.1	559.5	558.8	558.8	558.7	558.5
2.5	551.9	553.7	555.3	556.7	557.9	560.0	561.2	562.8	564.6	565.3
5.0	543.5	546.2	550.4	553.1	556.2	560.2	562.8	566.0	569.3	571.7
7.5	534.2	538.3	544.5	548.9	553.1	559.0	563.1	567.9	573.1	576.4
10.0	523.7	529.7	537.0	543.5	550.1	556.3	562.4	568.6	575.3	580.0
12.5	511.9	520.5	529.4	537.9	545.7	552.7	561.7	568.0	576.3	582.4
15.0	500.4	510.3	520.4	530.6	540.5	550.0	558.8	567.3	576.5	583.7
17.5	488.4	500.0	511.7	523.4	535.1	546.0	556.1	565.6	576.0	583.8
20.0	475.8	488.6	501.9	515.7	529.3	541.4	553.3	563.6	575.1	583.4
22.5	462.2	476.9	492.0	507.3	522.9	536.6	549.2	561.5	573.3	582.3
25.0	448.6	465.3	482.0	498.7	515.7	531.2	545.6	558.6	571.6	581.0
27.5	434.6	453.5	471.9	490.1	509.0	526.1	541.8	556.3	569.4	579.4
30.0	420.4	440.9	461.9	481.9	502.0	520.9	538.0	554.0	567.6	577.1
32.5	406.6	428.9	451.4	474.0	495.6	516.4	535.3	552.0	566.4	575.5
35.0	393.3	417.6	442.0	466.4	490.1	513.2	533.3	550.9	565.2	573.7
37.5	380.5	406.7	433.6	459.9	485.4	510.2	532.2	550.5	564.0	572.3
40.0	368.5	396.9	425.8	454.4	481.9	508.2	531.9	551.1	564.4	570.8
42.5	357.8	388.5	419.1	449.5	479.3	508.3	532.7	552.2	565.1	569.7
45.0	348.6	381.5	414.2	447.5	479.2	509.2	535.0	554.4	566.2	568.1
47.5	340.6	376.0	411.2	446.9	480.6	512.2	538.5	557.3	567.9	566.0
50.0	334.7	372.6	410.9	448.2	483.8	516.8	542.7	560.9	568.7	563.4
52.5	330.5	371.3	412.5	451.8	489.0	522.6	548.4	565.0	568.6	559.5
55.0	327.1	371.4	415.4	457.5	496.1	530.4	555.2	569.4	569.2	554.9
57.5	325.5	372.8	419.6	464.6	504.0	538.7	562.3	573.5	568.9	548.0
60.0	323.6	374.7	423.9	471.6	512.1	546.6	568.4	576.2	566.4	539.4
62.5	322.4	375.1	427.3	476.7	518.0	553.0	573.4	576.5	561.6	529.3
65.0	319.4	373.8	427.4	476.5	519.8	554.9	573.1	574.4	553.5	514.5
67.5	314.3	368.9	423.1	473.0	516.1	549.8	567.2	565.7	541.1	497.3
70.0	304.9	358.7	412.4	461.3	504.2	537.8	553.1	550.5	523.3	475.7
72.5	291.0	343.0	393.7	441.8	482.6	515.1	529.7	524.7	499.0	449.6
75.0	273.9	320.5	367.7	411.4	451.1	482.1	497.0	491.8	464.6	418.9
77.5	251.0	292.8	334.6	374.9	410.2	439.3	453.7	450.8	426.4	383.3
80.0	226.1	261.5	297.4	332.1	364.9	390.6	404.6	402.3	381.5	345.0
82.5	199.5	229.1	258.2	287.4	315.6	337.8	352.9	351.8	334.7	304.5
85.0	173.1	196.6	220.3	244.4	267.6	286.4	300.3	301.0	288.3	264.5
87.5	148.7	166.7	185.2	204.1	223.6	240.4	252.1	254.1	245.1	227.1
90.0	126.4	140.2	154.3	169.4	184.6	199.0	209.3	212.1	206.1	191.6
92.5	107.5	117.9	129.0	140.3	152.6	164.3	172.7	176.1	172.1	162.2
95.0	91.60	99.73	107.8	116.9	126.5	135.4	142.5	145.8	143.9	135.9
97.5	78.01	84.29	90.97	97.68	104.6	112.1	118.3	121.3	119.9	114.1
100.0	66.61	71.64	76.85	82.02	87.80	93.47	97.74	100.5	99.73	95.79
102.5	57.56	61.24	65.32	69.40	74.02	78.33	81.96	83.94	83.68	80.29
105.0	49.83	53.07	56.28	59.38	63.00	65.96	68.77	70.56	70.16	67.53
107.5	43.35	45.94	48.64	51.34	53.69	56.22	58.14	59.31	58.80	56.82
110.0	37.93	40.09	42.34	44.41	46.36	48.24	49.77	50.46	50.09	48.32
112.5	33.21	35.08	36.93	38.56	40.24	41.56	42.60	43.11	42.56	41.00
115.0	29.13	30.77	32.41	33.77	34.90	35.92	36.54	36.72	36.17	34.68
117.5	25.63	27.10	28.43	29.56	30.42	31.18	31.47	31.43	30.78	29.51
120.0	22.61	23.88	25.00	25.90	26.52	27.07	27.11	27.09	26.40	25.10
122.5	19.88	21.01	22.02	22.72	23.25	23.44	23.54	23.21	22.52	21.32
125.0	17.46	18.48	19.32	19.89	20.32	20.44	20.24	19.94	19.25	18.06
127.5	15.23	16.16	16.83	17.36	17.66	17.68	17.55	17.05	16.35	15.19
130.0	13.24	14.06	14.66	15.09	15.32	15.21	15.01	14.54	13.84	12.76
132.5	11.34	12.13	12.68	12.95	13.15	13.04	12.74	12.29	11.50	10.62
135.0	9.742	10.36	10.81	11.08	11.18	11.00	10.80	10.29	9.624	8.745
137.5	8.247	8.792	9.178	9.412	9.442	9.270	9.004	8.586	7.955	7.211
140.0	7.019	7.429	7.714	7.913	7.910	7.772	7.506	7.121	6.587	5.946
142.5	5.822	6.164	6.445	6.578	6.575	6.438	6.205	5.917	5.450	4.876
145.0	4.856	5.163	5.375	5.474	5.472	5.302	5.136	4.846	4.479	4.040
147.5	4.090	4.295	4.438	4.538	4.503	4.401	4.235	4.008	3.743	3.371
150.0	3.492	3.631	3.739	3.772	3.771	3.702	3.536	3.375	3.209	2.971
152.5	3.127	3.264	3.238	3.272	3.270	3.235	3.102	2.974	2.908	2.704
155.0	2.892	2.930	2.970	2.969	2.968	2.901	2.834	2.772	2.640	2.536
157.5	2.626	2.663	2.735	2.735	2.701	2.633	2.600	2.504	2.372	2.269
160.0	2.394	2.397	2.436	2.436	2.402	2.401	2.301	2.238	2.172	2.103
162.5	2.161	2.164	2.169	2.202	2.201	2.200	2.067	2.037	1.971	1.869
165.0	1.634	1.702	1.701	1.773	1.767	1.733	1.737	1.703	1.607	1.568
167.5	1.299	1.268	1.304	1.338	1.337	1.336	1.336	1.372	1.338	1.337
170.0	1.132	1.133	1.136	1.169	1.103	1.168	1.168	1.138	1.138	1.103
172.5	1.097	1.099	1.101	1.102	1.101	1.134	1.101	1.102	1.070	1.068
175.0	1.097	1.099	1.101	1.101	1.101	1.100	1.100	1.102	1.070	1.068
177.5	1.097	1.099	1.101	1.101	1.101	1.100	1.100	1.102	1.070	1.068
180.0	1.097	1.099	1.135	1.134	1.101	1.100	1.134	1.102	1.103	1.101

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Test Report No. P190C-R1

Photometric Data Table [cd]

G/C	300.0	305.0	310.0	315.0	320.0	325.0	330.0	335.0	340.0	345.0
0.0	558.6	558.5	559.1	558.6	559.3	558.9	558.4	558.6	559.0	559.3
2.5	567.2	568.9	570.4	571.4	573.0	573.7	573.8	574.8	575.9	576.4
5.0	574.9	577.4	580.4	582.6	585.2	586.9	587.6	589.4	591.0	592.3
7.5	581.1	584.8	588.4	591.9	595.3	598.2	599.7	602.0	603.8	605.9
10.0	585.5	590.6	595.1	599.7	603.5	607.1	609.4	612.1	614.0	616.4
12.5	588.8	595.2	600.1	605.1	609.9	614.0	616.4	619.4	621.4	624.2
15.0	591.1	598.5	603.6	609.1	614.0	618.1	620.8	623.9	625.7	628.2
17.5	592.6	600.0	605.9	611.0	615.8	619.2	621.4	624.4	625.8	627.5
20.0	592.3	600.0	605.9	610.6	614.8	618.1	619.4	621.6	622.5	622.7
22.5	591.5	598.8	604.7	608.1	610.6	613.7	613.9	614.5	613.9	613.5
25.0	589.8	596.8	602.0	604.0	604.2	605.5	604.2	603.8	601.2	599.4
27.5	587.4	593.8	597.7	598.0	595.3	594.6	590.9	588.2	583.7	580.6
30.0	585.1	589.7	591.5	589.6	584.6	579.8	573.4	568.5	562.2	556.9
32.5	582.3	585.0	584.0	579.2	570.8	561.8	553.2	544.3	536.4	528.9
35.0	579.1	579.6	575.3	566.8	554.5	541.6	528.7	517.7	507.3	497.8
37.5	575.7	573.0	565.3	552.7	536.0	518.6	502.1	488.3	475.2	463.8
40.0	571.7	565.5	554.1	536.1	515.7	493.2	473.5	456.8	441.6	428.7
42.5	567.2	556.9	540.7	518.7	492.8	466.8	443.6	424.0	407.3	393.5
45.0	562.3	547.0	526.2	499.0	468.7	438.8	412.3	390.8	372.9	358.0
47.5	555.9	536.1	509.6	478.4	443.5	410.6	381.4	358.3	340.0	324.2
50.0	548.5	523.5	491.7	456.1	417.6	382.1	350.7	326.8	307.2	292.4
52.5	539.6	509.5	472.7	432.9	391.6	353.7	321.2	296.6	277.1	262.4
55.0	529.0	493.4	452.6	408.8	365.1	326.2	293.3	268.0	248.9	234.9
57.5	516.2	475.4	430.5	383.8	339.0	299.6	266.7	242.0	223.4	209.8
60.0	501.5	455.8	407.4	358.5	313.4	274.4	242.1	217.8	199.6	186.7
62.5	484.2	434.4	383.0	333.5	288.7	250.2	218.8	195.5	177.9	165.9
65.0	465.4	411.7	358.0	308.6	264.3	227.3	197.1	175.1	158.5	147.0
67.5	444.0	387.2	332.8	283.9	240.8	205.7	177.6	156.5	141.1	130.1
70.0	420.3	361.7	307.7	259.7	218.8	185.5	159.6	140.0	125.2	114.7
72.5	393.8	335.2	282.7	236.6	198.0	166.9	143.1	124.8	110.9	100.9
75.0	364.2	307.9	257.8	214.4	178.4	149.9	128.1	111.0	97.98	88.50
77.5	332.3	280.6	233.2	193.3	160.6	134.2	114.5	98.47	86.30	77.24
80.0	300.0	252.5	209.8	173.3	144.0	120.1	101.4	87.18	76.00	67.26
82.5	266.0	224.8	187.4	154.5	128.4	107.0	90.08	77.09	66.75	58.61
85.0	232.7	198.0	165.8	137.4	114.0	94.78	79.60	68.08	58.56	50.57
87.5	201.3	173.1	145.3	121.4	100.7	83.86	70.48	60.04	50.97	43.47
90.0	172.2	149.7	127.1	106.3	88.66	73.89	62.30	52.48	44.24	37.14
92.5	147.2	128.9	111.1	93.28	78.05	65.43	54.75	45.95	38.33	31.69
95.0	124.4	110.8	95.99	81.36	68.29	57.34	47.89	39.75	32.85	26.74
97.5	105.1	94.53	82.53	70.45	59.73	49.98	41.52	34.30	28.00	22.46
100.0	89.08	80.38	70.46	60.89	51.82	43.22	35.85	29.34	23.73	18.76
102.5	75.12	68.19	60.34	52.60	44.78	37.31	30.80	25.03	20.04	15.73
105.0	63.44	57.78	51.78	45.10	38.50	32.00	26.40	21.45	16.95	13.15
107.5	53.72	49.32	44.35	38.70	32.94	27.46	22.43	18.00	14.10	10.96
110.0	45.62	42.01	37.75	32.93	28.06	23.35	18.93	15.03	11.68	9.012
112.5	38.59	35.52	31.92	27.93	23.77	19.64	15.82	12.38	9.563	7.464
115.0	32.70	30.06	26.97	23.55	19.89	16.38	12.99	10.05	7.624	6.289
117.5	27.62	25.27	22.62	19.58	16.54	13.37	10.45	7.868	6.111	5.381
120.0	23.31	21.13	18.73	16.17	13.36	10.63	8.184	6.193	4.938	4.542
122.5	19.73	17.61	15.41	13.04	10.54	8.119	5.976	4.651	3.960	3.766
125.0	16.46	14.64	12.46	10.27	8.071	6.118	4.410	3.079	2.652	2.625
127.5	13.80	12.11	10.09	8.125	6.199	4.585	3.276	2.246	1.648	1.081
130.0	11.46	9.936	8.281	6.578	4.928	3.480	2.441	1.809	1.310	1.076
132.5	9.454	8.159	6.735	5.334	3.986	2.841	2.004	1.607	1.176	1.076
135.0	7.715	6.652	5.495	4.360	3.315	2.406	1.903	1.540	1.175	1.076
137.5	6.380	5.450	4.491	3.556	2.780	2.172	1.836	1.473	1.175	1.076
140.0	5.248	4.482	3.721	2.986	2.479	2.138	1.769	1.439	1.175	1.076
142.5	4.311	3.746	3.084	2.650	2.244	2.005	1.669	1.406	1.175	1.076
145.0	3.574	3.110	2.714	2.415	2.210	1.838	1.636	1.306	1.175	1.076
147.5	3.073	2.774	2.512	2.281	2.009	1.737	1.469	1.205	1.075	1.076
150.0	2.773	2.574	2.412	2.147	1.876	1.704	1.402	1.172	1.075	1.076
152.5	2.605	2.407	2.212	2.013	1.775	1.604	1.336	1.138	1.075	1.076
155.0	2.371	2.206	2.043	1.844	1.674	1.437	1.269	1.138	1.075	1.076
157.5	2.203	2.005	1.875	1.710	1.507	1.370	1.168	1.138	1.075	1.076
160.0	1.970	1.838	1.708	1.643	1.407	1.270	1.135	1.071	1.075	1.076
162.5	1.770	1.704	1.574	1.408	1.339	1.169	1.135	1.071	1.075	1.076
165.0	1.535	1.470	1.407	1.242	1.205	1.136	1.069	1.071	1.075	1.076
167.5	1.238	1.238	1.174	1.108	1.139	1.103	1.068	1.071	1.075	1.076
170.0	1.169	1.071	1.106	1.107	1.072	1.069	1.068	1.071	1.075	1.076
172.5	1.069	1.069	1.072	1.073	1.072	1.069	1.068	1.071	1.075	1.076
175.0	1.069	1.069	1.072	1.073	1.072	1.069	1.068	1.071	1.075	1.076
177.5	1.102	1.069	1.072	1.073	1.072	1.069	1.068	1.071	1.075	1.076
180.0	1.102	1.069	1.139	1.107	1.105	1.103	1.135	1.138	1.142	1.143

C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature: 26.0°C

Operators: Bala

Test Date: 11 December 2023

γ Range: 0 - 180DEG

γ Interval: 2.5DEG

Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463

Humidity: 20.0%

Test Distance: 26.000m [K=0.8358]

Remarks: LED Luminaire with individual LED lens optics

Test Report No. P190C-R1

Photometric Data Table [cd]

G/C	350.0	355.0
0.0	559.3	558.8
2.5	577.1	577.1
5.0	593.0	593.1
7.5	606.9	607.3
10.0	617.2	618.2
12.5	624.7	626.0
15.0	629.4	629.6
17.5	628.6	629.6
20.0	624.2	624.2
22.5	613.8	614.0
25.0	598.2	598.2
27.5	578.1	576.9
30.0	552.6	551.0
32.5	523.4	520.9
35.0	490.2	487.2
37.5	455.4	451.4
40.0	419.3	414.6
42.5	383.1	378.2
45.0	347.6	342.1
47.5	313.6	308.4
50.0	281.9	276.6
52.5	252.5	247.5
55.0	225.6	220.8
57.5	200.9	196.5
60.0	178.4	174.6
62.5	157.9	154.3
65.0	139.7	136.4
67.5	123.1	119.8
70.0	107.9	104.7
72.5	94.10	90.91
75.0	81.74	78.19
77.5	70.53	66.80
80.0	60.49	56.35
82.5	51.94	47.50
85.0	44.05	39.43
87.5	37.05	32.50
90.0	31.00	26.78
92.5	25.99	21.90
95.0	21.55	17.89
97.5	17.81	14.66
100.0	14.78	12.34
102.5	12.33	10.69
105.0	10.38	9.446
107.5	8.868	8.336
110.0	7.762	7.396
112.5	6.819	6.487
115.0	5.916	5.615
117.5	5.075	4.809
120.0	4.302	4.035
122.5	3.528	3.295
125.0	2.487	2.287
127.5	0.8150	0.6788
130.0	0.8064	0.5385
132.5	0.8064	0.5714
135.0	0.8400	0.6051
137.5	0.9071	0.7058
140.0	0.9072	0.8064
142.5	0.9072	0.7734
145.0	0.9072	0.7732
147.5	0.9072	0.7732
150.0	0.9072	0.8068
152.5	0.9407	0.8403
155.0	0.9744	0.8740
157.5	0.9745	0.9414
160.0	1.008	0.9749
162.5	1.075	1.009
165.0	1.042	1.042
167.5	1.075	1.042
170.0	1.075	1.076
172.5	1.075	1.076
175.0	1.075	1.076
177.5	1.075	1.076
180.0	1.109	1.143

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators: Bala
 Test Date: 11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance: 26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics

Test Methods

Luminous Intensity Distribution were measured using Everfine Goniospectrophotometer (EVERFINE GO-R5000) with a HAAS-2000 spectrometer in the midfield geometry. Tested according to IES LM-79-2019. Test distance exceeds five times the greatest luminous opening of luminaires. The sample was tested in the orientation for its intended use. Determined in accordance with the current IES published procedures. Laboratory result may not be representative of field performance. Absolute photometry taken. All photometric measurement equipment was calibrated using a 530W omni-directional Everfine halogen standard flux lamp (D908S). All measurements are traceable to NIST. The spectral and color angular uniformity measurements were done using the HAAS-2000 spectrometer positioned at the midfield in front of the secondary mirror.

All measurements were performed when the device under test was operated long enough to reach stabilization. Stability is reached when the variation of three readings of the light output and electrical power over a period of 30 min, taken 10 minutes apart, is less than 0.5 %. The maximum uncertainty for gonio measured luminous flux for an indoor luminaire is +/- 3.8% and +/- 0.5% for CCT measurements (k = 2) based on the GO-R5000 Measurement Uncertainty Analysis conducted by Everfine.

Applicable Standards and Operating Equipment

- IES LM-79:2019 (Sec. 7) Solid State Lighting Luminaires - Total Flux Measurements and Intensity Distribution (Luminous Efficacy)
- ANSI C82.77:2002 Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment
- GO-R5000 Measurement Uncertainty Analysis document

Equipment	Manufacturer	Model
Goniospectrophotometer	Everfine Corporation	EVERFINE GO-R5000_V2 SYSTEM V2.00.463
Spectrometer	Everfine	HAAS-2000
Digital Power Meter	Yokogawa	WT230
DC Power Supply (CC and CV)	Everfine Corporation	WY12010
Spectral Luminous Flux Standard	Everfine Corporation	D908S
AC Power Source	Everfine Corporation	PCR 1000WH

Revision History		
Date:	Rev. #	Comment
Dec. 6, 2023	0	Initial Issue
Dec. 11, 2023	1	Re-tested without driver and supplied 24.0 VDC

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END OF REPORT

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 26.0°C
 Operators: Bala
 Test Date: 11 December 2023

γ Range: 0 - 180DEG
 γ Interval: 2.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.463
 Humidity: 20.0%
 Test Distance: 26.000m [K=0.8358]
 Remarks: LED Luminaire with individual LED lens optics