



## LM-79 Goniophotometric Report TEST REPORT NO. P295C

Fixture Information	
Zilux Outdoor LED Module Cat. No. TPII-FROST. Eight White LEDs run at 24.0VDC.	
	
Side View	
	
Front View	

Prepared For:  
Zilux Inc.  
Quebec, Quebec

Tested Date: March 27, 2024  
Prepared Date: March 27, 2024

Prepared By:



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

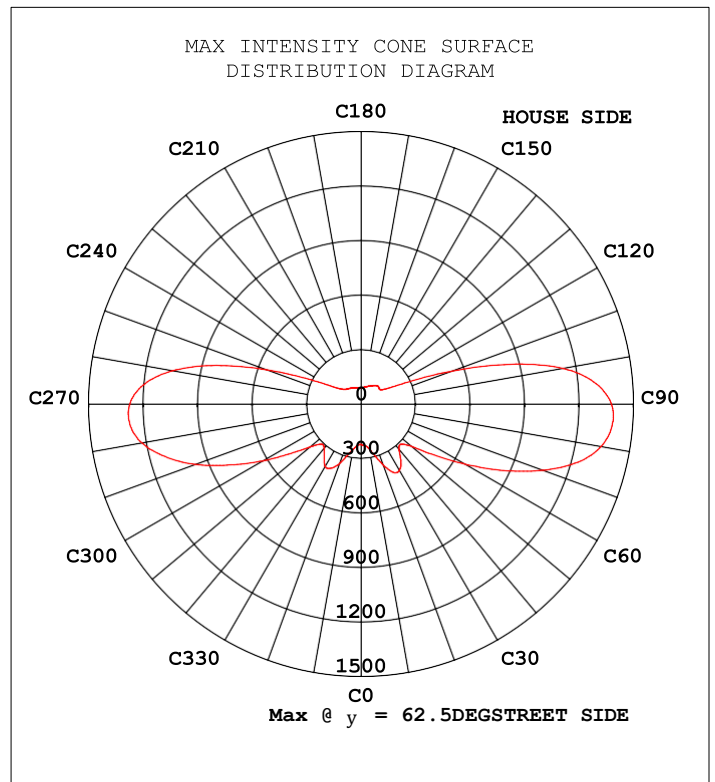
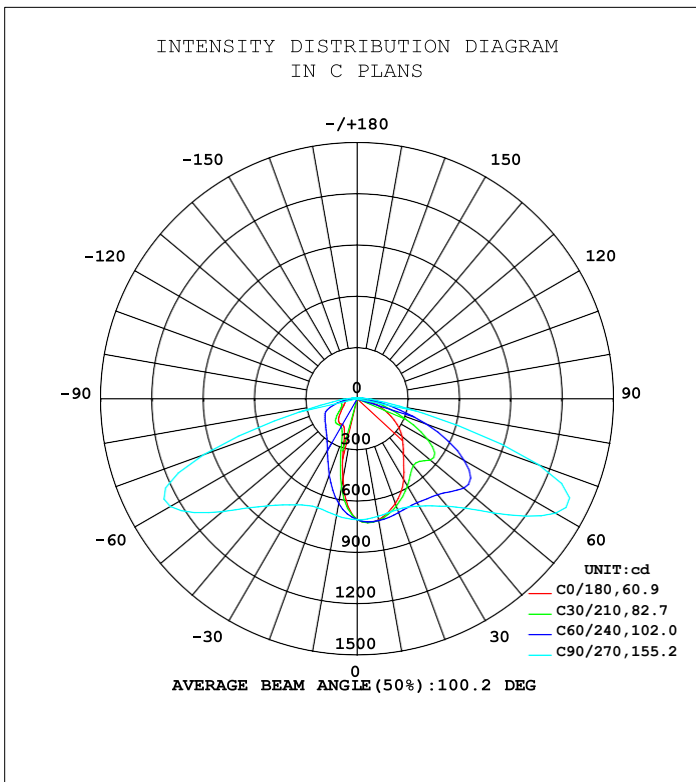
Approved by:

Charles Sisson

**STREETLIGHT PHOTOMETRIC TEST REPORT**

Test:U:24.000V I:0.9226A P:22.140W PF:1.0000 Freq:60.00Hz Lamp Flux:2425.66x1 lm		
NAME: TPII-FROST	TYPE: Outdoor LED Module	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			Eff: 109.52 lm/W
MODEL		I <sub>max</sub> (cd)	1386	η street_up (%)	1.6
NOMINAL POWER (W)		LOR (%)	100.0	η street_down (%)	63.9
RATED VOLTAGE (V)	120.0	TOTAL FLUX (lm)	2425	η house_up (%)	1.4
NOMINAL FLUX (lm)	2425.66	MAXIMUM @ (C,y )	85,62.5	η house_down (%)	33.0
LAMPS INSIDE	1	η up (%)	3.0	76 FLASHAREA (m2)	
TEST VOLTAGE (V)	120.0	η down (%)	96.9	SLI	



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.5°C  
Operators: Charles  
Test Date: 27 March 2024

y Range: 0 - 180DEG  
y Interval: 2.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
Humidity: 27.1%  
Test Distance: 26.000m [K=0.8358]  
Remarks:

**ZONAL FLUX DIAGRAM**

Test:U:24.000V I:0.9226A P:22.140W PF:1.0000 Freq:60.00Hz Lamp Flux:2425.66x1 lm		
NAME: TPII-FROST	TYPE: Outdoor LED Module	WEIGHT:
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y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	%lum
10	720.3	726.1	700.3	576.8	485.5	573.2	694.9	720.9	0- 10	64.73	64.73	2.67
20	653.2	690.1	690.7	347.4	221.0	348.2	678.7	680.1	10- 20	166.3	231.0	9.53
30	546.2	637.8	726.0	213.7	175.1	225.6	717.5	630.2	20- 30	234.0	465.0	19.2
40	421.6	582.3	822.0	188.5	170.7	205.1	818.4	589.8	30- 40	297.9	762.9	31.5
50	343.0	519.3	1040	199.0	129.7	192.4	1028	532.1	40- 50	374.0	1137	46.9
60	249.8	361.4	1340	154.1	95.93	130.6	1262	359.2	50- 60	451.1	1588	65.5
70	149.9	207.7	1129	98.07	79.39	93.85	955.1	207.4	60- 70	434.0	2022	83.4
80	60.54	112.0	254.9	70.47	62.70	69.94	217.8	108.1	70- 80	244.6	2267	93.5
90	18.59	49.96	61.59	39.20	30.51	37.91	59.99	49.93	80- 90	84.96	2352	97
100	7.289	26.50	31.10	21.08	8.316	20.22	31.14	26.89	90-100	35.58	2387	98.4
110	5.217	12.62	19.71	11.41	4.537	11.47	19.40	13.35	100-110	17.90	2405	99.2
120	3.151	6.428	11.99	6.867	2.876	7.283	12.15	6.643	110-120	9.405	2414	99.6
130	1.664	3.536	8.057	4.477	1.726	4.823	7.909	3.709	120-130	5.148	2420	99.8
140	0.6893	2.221	5.182	3.097	1.660	3.503	4.840	2.496	130-140	2.845	2422	99.9
150	0.5910	1.684	3.342	2.425	0.9220	3.100	3.070	2.089	140-150	1.588	2424	100
160	0	0.3368	0	0	0.1844	0	0	0	150-160	0.7887	2425	100
170	0	0	0	0	0	0	0	0	160-170	0.0019	2425	100
180	0	0	0	0	0	0	0	0	170-180	0	2425	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

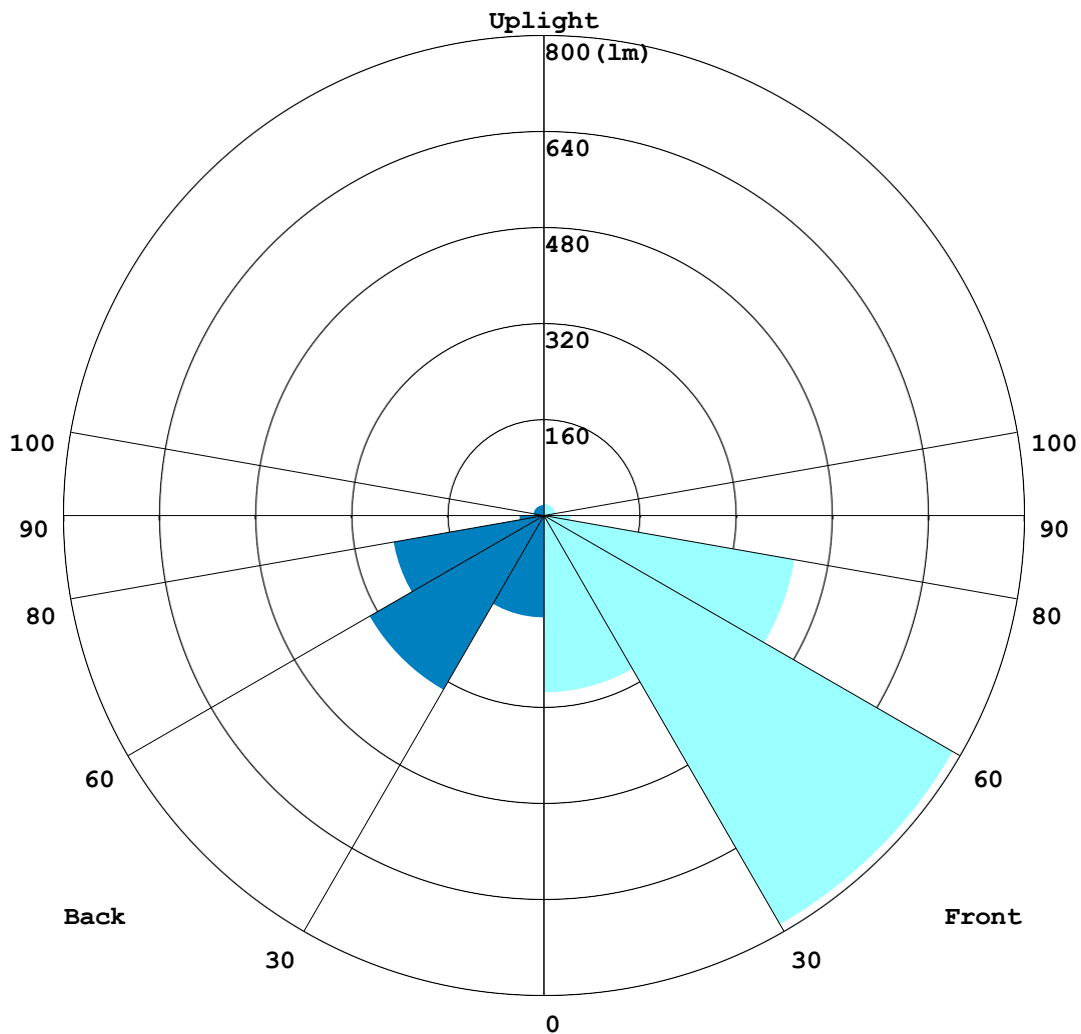
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 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators:Charles  
 Test Date:27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance:26.000m [K=0.8358]  
 Remarks:

LCS REPORT

Test:U:24.000V I:0.9226A P:22.140W PF:1.0000 Freq:60.00Hz		
Lamp Flux:2425.66x1 lm		
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MFR.: Zilux	SUR.:	Shielding Angle:

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG  
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 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators:Charles  
 Test Date:27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance:26.000m [K=0.8358]  
 Remarks:

**BUG REPORT**

Test:U:24.000V I:0.9226A P:22.140W PF:1.0000 Freq:60.00Hz Lamp Flux:2425.66x1 lm		
NAME: TPII-FROST	TYPE: Outdoor LED Module	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux	SUR.:	Shielding Angle:

**IESNA Luminaire Flux Distribution Table:**

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	294.75	12.2
FM - Front-Medium(30-60)	787.28	32.5
FH - Front-High(60-80)	424.33	17.5
FVH - Front-Very High(80-90)	44.413	1.8
<b>Total Forward Light</b>	<b>1589.4</b>	<b>65.5</b>

BL - Back-Low(0-30)	170.27	7.0
BM - Back-Medium(30-60)	335.63	13.8
BH - Back-High(60-80)	254.31	10.5
BVH - Back-Very High(80-90)	40.55	1.7
<b>Total Back Light</b>	<b>835.39</b>	<b>34.5</b>

UL - Uplight-Low(90-100)	35.576	1.5
UH - Uplight-High(100-180)	37.678	1.6
<b>Total Up Light</b>	<b>73.254</b>	<b>3.0</b>

BUG (Back, Up, Glare) Rating	B1-U2-G1
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	800.75	34.642	835.39
Street Side	1550.8	38.611	1589.4

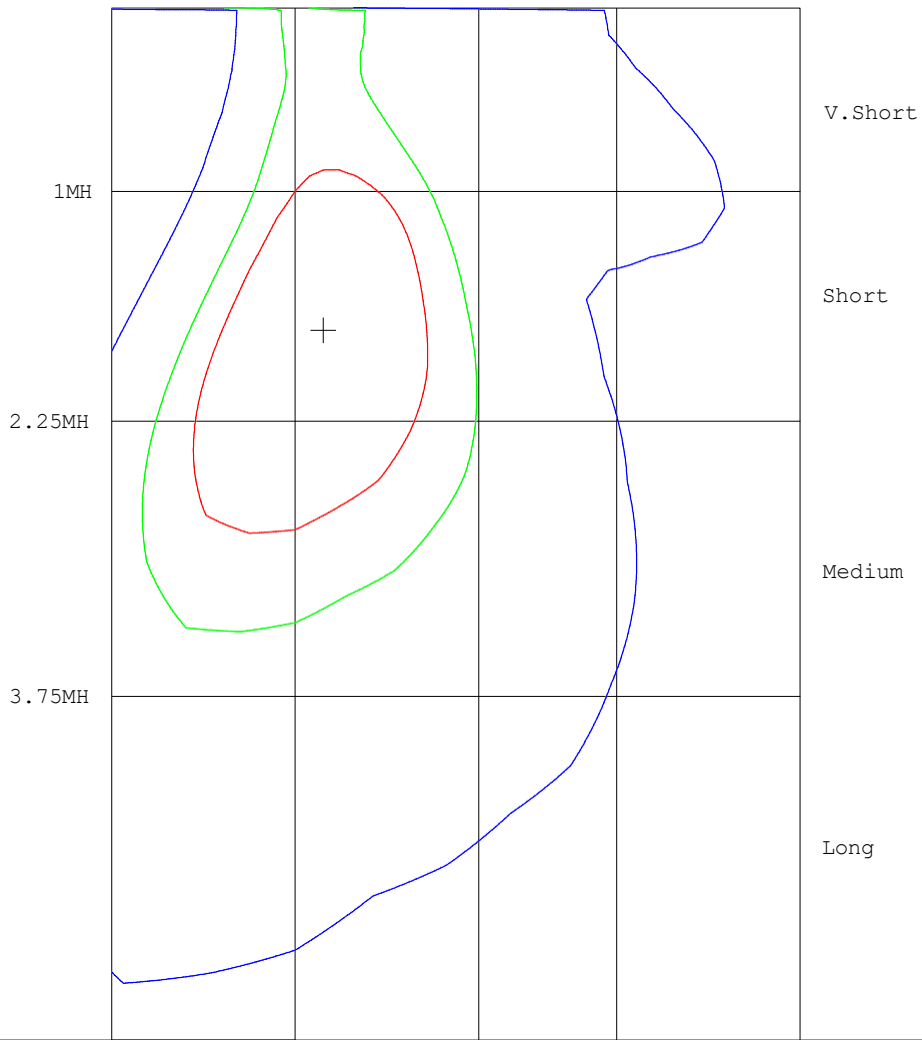
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 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

ROAD ISOCANDELA REPORT

Test:U:24.000V I:0.9226A P:22.140W PF:1.0000 Freq:60.00Hz Lamp Flux:2425.66x1 lm		
NAME: TPII-FROST	TYPE: Outdoor LED Module	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Zilux	SUR.:	Shielding Angle:

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH 6MH  
 Temperature: 25.5°C 1MH  
 Operators: Charles  
 Test Date: 27 March 2024

Type I  
 Type II  
 Type III  
 Type IV

y Range: 0 - 180DEG  
 y Interval: 5.0DEG  
 Test System: EVERFINE GO-R5000 V2 SYSTEM V2.00.463  
 Humidity: 27.1% 7.5MH  
 Test Distance: 26.000m [K=0.58358] 2.41

Roadmarks:  
 — 7.0% 9.02.75 Pavement  
 — 50% 644.82  
 — 5% 64.482

**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	707.0	706.7	707.8	706.6	707.4	707.3	707.0	706.9	708.3	707.8
2.5	722.1	722.1	722.4	722.0	722.3	722.5	721.8	721.2	721.5	720.9
5.0	728.2	729.2	728.9	728.9	728.5	729.0	728.4	727.4	727.9	727.2
7.5	727.1	728.6	728.6	729.4	728.5	730.0	729.1	729.0	730.1	729.5
10.0	720.3	721.4	721.2	723.2	722.9	725.6	724.6	726.2	726.3	726.1
12.5	708.4	709.6	709.1	711.5	712.0	715.0	715.3	718.2	718.8	720.7
15.0	691.8	694.0	693.5	696.9	697.2	701.0	702.4	706.5	709.3	713.3
17.5	672.8	674.8	674.8	678.3	679.0	684.4	686.5	692.1	696.9	702.7
20.0	653.2	654.2	654.3	658.4	659.8	665.8	668.9	676.1	683.2	690.1
22.5	631.9	632.3	632.8	637.4	638.9	646.6	650.3	659.3	668.3	677.4
25.0	607.1	608.9	608.4	614.2	617.6	625.5	631.2	642.7	652.2	663.5
27.5	579.1	580.4	581.7	589.1	594.0	603.5	610.4	623.0	635.4	650.2
30.0	546.2	548.3	550.6	559.8	566.7	578.9	589.1	603.6	619.1	637.8
32.5	511.3	512.9	517.1	527.8	537.5	553.6	566.3	584.0	602.1	626.1
35.0	477.0	478.6	484.0	496.1	509.3	528.5	543.3	563.9	584.8	611.5
37.5	447.1	448.2	454.2	468.6	484.5	506.5	524.1	546.0	568.3	597.7
40.0	421.6	423.2	430.5	447.3	467.2	491.5	511.6	531.6	552.1	582.3
42.5	400.5	402.6	411.6	432.2	458.2	487.6	509.5	524.0	538.4	566.5
45.0	381.5	385.0	396.8	422.7	457.8	495.1	518.5	525.6	529.5	551.8
47.5	362.8	368.1	383.6	417.4	463.6	512.1	538.1	534.9	523.7	536.8
50.0	343.0	349.9	370.3	412.3	470.4	530.8	558.1	545.9	517.7	519.3
52.5	322.3	329.8	354.3	404.0	470.7	538.8	565.2	545.5	503.5	494.4
55.0	300.3	308.1	333.2	387.8	459.4	529.6	554.2	527.3	473.9	458.7
57.5	275.9	283.5	307.7	362.7	434.0	503.8	523.8	490.4	429.5	412.1
60.0	249.8	256.8	278.9	330.5	398.3	463.5	478.2	439.8	378.0	361.4
62.5	223.2	229.6	249.0	294.5	355.3	413.9	422.3	383.2	325.2	313.3
65.0	197.7	203.2	219.3	258.1	309.9	359.6	362.8	325.8	277.8	271.4
67.5	173.8	178.1	190.9	222.7	264.4	305.5	304.0	273.2	237.6	236.8
70.0	149.9	153.8	163.7	189.2	221.4	253.2	250.1	227.1	204.0	207.7
72.5	126.0	129.4	137.2	157.5	182.1	205.8	202.3	188.0	176.0	182.7
75.0	102.0	104.9	111.3	127.9	146.2	163.6	161.5	154.9	151.1	159.1
77.5	79.50	82.12	87.80	101.6	115.6	128.4	127.9	127.6	128.5	135.3
80.0	60.54	62.77	68.24	79.79	90.48	100.2	101.5	104.7	107.2	112.0
82.5	45.49	47.54	52.76	62.28	70.78	78.66	81.10	85.47	88.14	90.77
85.0	33.94	35.84	40.60	48.76	55.64	62.02	65.19	69.72	72.08	73.55
87.5	25.00	26.87	31.16	38.09	43.85	49.51	52.67	56.94	58.98	60.06
90.0	18.59	20.15	23.85	29.92	34.96	40.11	43.45	47.15	49.10	49.96
92.5	13.91	15.16	18.42	23.55	28.15	33.05	36.46	39.91	41.79	42.60
95.0	10.62	11.38	14.23	18.54	22.81	27.48	30.94	34.09	35.75	36.46
97.5	8.446	8.958	11.43	14.81	18.68	23.01	26.32	29.16	30.57	31.20
100.0	7.289	7.515	9.509	12.13	15.60	19.27	22.16	24.58	25.73	26.50
102.5	6.675	6.645	8.187	10.27	13.17	16.13	18.42	20.35	21.37	22.20
105.0	6.233	6.104	7.241	8.770	11.26	13.48	15.24	16.64	17.65	18.47
107.5	5.760	5.598	6.503	7.495	9.527	11.17	12.56	13.62	14.55	15.25
110.0	5.217	5.022	5.828	6.315	8.014	9.216	10.44	11.17	12.05	12.62
112.5	4.642	4.446	5.188	5.405	6.674	7.534	8.629	9.270	10.13	10.60
115.0	4.100	3.879	4.548	4.633	5.566	6.160	7.182	7.690	8.551	8.947
117.5	3.592	3.304	3.941	3.966	4.727	5.017	5.940	6.309	7.204	7.599
120.0	3.151	2.828	3.403	3.358	3.990	4.053	4.866	5.140	6.060	6.428
122.5	2.678	2.357	2.932	2.821	3.387	3.316	4.062	4.200	5.084	5.386
125.0	2.274	1.956	2.497	2.349	2.888	2.779	3.429	3.459	4.349	4.578
127.5	1.966	1.586	2.123	1.914	2.480	2.345	2.986	2.956	3.778	4.041
130.0	1.664	1.313	1.785	1.611	2.178	2.009	2.583	2.553	3.404	3.536
132.5	1.425	1.078	1.518	1.342	1.913	1.739	2.317	2.216	3.033	3.130
135.0	1.220	0.8395	1.314	1.302	1.676	1.686	2.047	1.982	2.764	2.759
137.5	0.7139	0.5063	0.7107	1.262	1.242	1.633	1.879	1.814	2.525	2.491
140.0	0.6893	0.5403	0.6733	1.222	1.173	1.580	1.744	1.680	2.292	2.221
142.5	0.6647	0.5742	0.6732	1.182	1.139	1.526	1.678	1.579	2.189	2.020
145.0	0.6402	0.6192	0.5891	1.142	1.111	1.473	1.610	1.444	2.087	1.919
147.5	0.6156	0.6641	0.5049	1.101	1.083	1.420	1.510	1.238	1.986	1.784
150.0	0.5910	0.7091	0.4208	1.061	1.055	1.367	1.476	1.032	1.853	1.684
152.5	0.5665	0.7541	0.3366	1.021	1.027	1.313	1.409	0.8254	1.751	1.347
155.0	0.5419	0.7991	0.2525	0.9812	0.9996	1.260	1.309	0.6190	1.717	1.010
157.5	0.5419	0.8441	0.1683	0.9411	0.9717	1.207	1.308	0.4127	1.650	0.6736
160.0	0	0	0.0842	0	0	0	0	0.2063	0	0.3368
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

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 Remarks:

**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	707.4	706.8	707.4	706.4	707.3	706.9	707.4	706.9	707.6	706.4
2.5	719.1	718.4	717.9	715.4	714.6	713.3	711.6	709.8	708.3	705.5
5.0	725.4	725.0	723.6	720.8	719.4	716.6	713.2	709.7	706.1	701.5
7.5	727.7	727.7	725.5	722.6	720.6	717.0	713.2	708.7	703.4	697.1
10.0	724.9	725.6	724.9	722.9	721.0	717.6	713.1	706.6	700.3	691.8
12.5	720.8	722.2	722.4	721.3	719.0	716.7	711.9	704.0	695.6	685.1
15.0	714.3	717.3	719.1	718.9	718.2	715.4	710.5	702.1	692.8	679.3
17.5	706.1	711.3	714.6	716.6	716.8	714.8	709.5	701.2	690.6	674.7
20.0	696.6	704.3	709.3	713.0	716.4	715.2	711.0	702.6	690.7	672.3
22.5	686.2	696.4	704.4	710.2	715.9	716.4	714.4	705.2	693.1	671.4
25.0	676.2	689.3	701.6	710.6	720.6	723.7	722.4	713.9	699.6	674.7
27.5	666.0	684.2	700.8	714.9	728.9	734.6	734.6	725.9	710.4	682.4
30.0	657.8	681.2	703.4	722.5	740.7	749.5	751.9	743.0	726.0	692.2
32.5	650.6	678.8	708.0	733.2	757.1	770.1	773.9	763.8	744.0	706.0
35.0	642.2	677.3	714.5	746.8	777.7	794.7	800.6	789.4	766.5	722.8
37.5	633.2	676.9	722.6	763.8	802.9	823.9	831.7	819.1	793.1	741.7
40.0	623.6	676.6	733.3	787.0	833.1	860.1	869.5	854.5	822.0	765.1
42.5	613.4	677.3	748.9	814.5	873.6	906.5	917.9	896.6	860.3	792.2
45.0	602.5	680.5	769.4	852.6	925.3	966.2	978.8	953.3	907.9	827.6
47.5	591.2	684.1	792.9	896.1	986.7	1037	1053	1021	968.1	874.1
50.0	576.1	683.5	813.9	939.5	1048	1112	1132	1101	1040	932.8
52.5	552.9	674.1	822.4	969.6	1098	1178	1207	1180	1118	1003
55.0	517.1	647.0	810.6	978.6	1126	1225	1271	1255	1198	1079
57.5	469.0	603.7	776.2	962.9	1132	1254	1319	1321	1275	1159
60.0	415.9	548.1	724.1	924.4	1112	1262	1347	1369	1340	1237
62.5	364.2	489.2	661.7	865.4	1065	1236	1342	1386	1378	1298
65.0	317.8	430.5	590.1	784.7	981.3	1162	1282	1353	1371	1322
67.5	276.2	373.3	511.7	682.0	855.8	1032	1154	1250	1295	1285
70.0	239.6	317.1	426.3	562.7	700.2	849.6	958.9	1065	1129	1164
72.5	206.8	263.7	341.5	439.6	535.6	644.3	724.8	817.4	883.7	950.1
75.0	175.7	213.9	263.6	328.3	386.1	452.9	500.9	563.1	614.6	683.4
77.5	145.1	168.8	198.0	237.2	268.1	304.7	330.3	367.2	397.1	447.3
80.0	116.1	130.0	146.5	169.3	184.4	204.3	216.8	237.7	254.9	284.2
82.5	91.67	99.12	108.8	122.1	130.0	140.2	146.0	157.1	165.8	182.9
85.0	73.01	77.00	82.47	90.61	95.09	100.9	103.0	108.5	112.5	122.0
87.5	59.32	61.36	64.66	69.82	72.60	76.10	77.27	79.59	80.80	85.59
90.0	49.26	50.45	52.31	55.63	57.50	60.16	61.20	62.05	61.59	63.49
92.5	42.05	42.74	43.87	45.78	47.05	49.41	50.52	50.71	49.13	49.55
95.0	36.11	36.68	37.44	38.72	39.68	41.73	42.90	42.72	40.95	40.59
97.5	31.16	31.89	32.49	33.35	34.17	35.96	37.11	36.91	35.31	34.66
100.0	26.79	27.72	28.41	29.17	29.81	31.44	32.58	32.56	31.10	30.29
102.5	22.73	23.82	24.69	25.52	26.23	27.68	28.81	28.97	27.78	26.87
105.0	19.12	20.20	21.29	22.19	22.96	24.31	25.56	25.89	24.98	24.02
107.5	15.93	16.94	18.14	19.21	20.05	21.20	22.43	22.99	22.35	21.48
110.0	13.29	14.14	15.37	16.44	17.39	18.38	19.44	20.04	19.71	18.96
112.5	11.37	11.94	13.08	13.99	15.00	15.89	16.82	17.37	17.24	16.65
115.0	9.779	10.30	11.39	12.09	13.12	13.84	14.71	15.07	15.13	14.66
117.5	8.463	8.914	9.971	10.61	11.60	12.20	13.03	13.25	13.42	12.98
120.0	7.283	7.744	8.826	9.328	10.39	10.87	11.63	11.74	11.99	11.60
122.5	6.340	6.802	7.782	8.288	9.280	9.693	10.49	10.57	10.85	10.50
125.0	5.592	5.959	7.003	7.390	8.345	8.685	9.441	9.468	9.859	9.538
127.5	5.022	5.287	6.230	6.578	7.497	7.782	8.507	8.537	8.949	8.625
130.0	4.481	4.681	5.589	5.870	6.754	6.944	7.668	7.668	8.057	7.755
132.5	4.008	4.174	5.048	5.172	6.024	6.169	6.862	6.809	7.252	6.959
135.0	3.572	3.734	4.512	4.630	5.379	5.462	6.129	6.034	6.477	6.183
137.5	3.236	3.266	4.076	4.096	4.842	4.829	5.461	5.339	5.778	5.487
140.0	2.965	2.962	3.637	3.657	4.336	4.290	4.856	4.735	5.182	4.887
142.5	2.728	2.659	3.333	3.256	3.898	3.789	4.390	4.170	4.611	4.313
145.0	2.526	2.357	3.062	2.920	3.465	3.352	3.886	3.702	4.108	3.812
147.5	2.425	2.222	2.794	2.618	3.195	2.951	3.550	3.235	3.706	3.344
150.0	2.291	2.055	2.626	2.384	2.959	2.717	3.181	2.903	3.342	3.011
152.5	2.189	1.919	2.490	2.249	2.790	2.482	2.981	2.669	3.072	2.710
155.0	2.021	1.785	2.322	2.081	2.589	2.313	2.779	2.401	2.871	2.475
157.5	1.920	1.718	2.221	1.914	2.421	2.080	2.545	2.202	2.638	2.309
160.0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:



**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	707.2	707.1	706.9	707.0	707.4	707.0	706.1	707.0	706.6	706.1
2.5	704.2	702.0	699.5	697.7	695.4	693.5	689.8	688.9	685.7	684.0
5.0	698.2	693.6	688.6	683.6	677.6	672.5	665.8	661.4	654.0	649.8
7.5	690.7	683.0	674.0	665.6	655.3	645.3	632.8	624.4	610.8	602.5
10.0	683.1	671.8	657.7	643.7	627.7	611.3	592.5	576.8	556.7	543.1
12.5	673.3	658.4	639.0	619.0	595.0	571.6	544.8	522.2	494.6	474.7
15.0	663.6	643.9	618.9	590.9	560.0	527.6	492.4	462.6	429.2	404.3
17.5	654.9	629.3	596.4	561.1	521.2	481.1	438.6	402.9	365.6	338.6
20.0	648.2	615.5	574.3	530.1	481.2	433.3	385.7	347.4	310.2	284.3
22.5	642.7	603.0	552.9	498.4	440.9	387.3	337.2	299.5	266.1	243.8
25.0	640.4	591.9	532.3	468.2	402.9	345.2	296.0	261.6	233.8	216.0
27.5	641.7	584.3	514.0	440.1	367.0	308.6	262.8	233.4	211.6	198.3
30.0	644.9	578.2	496.4	412.6	335.4	277.9	237.6	213.7	197.8	188.4
32.5	651.1	572.8	480.1	387.0	307.6	252.9	218.7	200.6	190.0	184.3
35.0	659.7	569.3	464.3	362.9	283.5	233.1	205.1	192.6	186.8	184.2
37.5	670.0	567.9	450.1	341.6	263.0	217.7	196.0	188.7	187.6	187.2
40.0	682.4	567.0	436.9	323.0	246.4	206.2	190.6	188.5	190.9	191.9
42.5	698.5	567.8	425.4	306.5	232.6	197.9	188.1	190.9	196.3	196.3
45.0	720.1	571.8	416.1	293.1	221.8	192.0	187.9	194.7	200.6	198.7
47.5	750.1	582.8	411.2	282.6	213.3	187.8	188.4	198.1	202.9	197.2
50.0	792.4	603.8	414.4	276.7	206.5	183.9	187.9	199.0	200.8	190.8
52.5	846.6	634.8	425.8	275.8	201.5	178.9	184.3	194.8	193.5	180.5
55.0	911.7	677.5	445.7	279.2	197.4	171.9	176.2	185.4	181.7	167.1
57.5	983.9	729.9	472.3	285.7	192.9	162.2	163.4	171.2	166.7	152.6
60.0	1062	789.6	503.5	292.9	187.8	150.9	147.7	154.1	150.1	138.6
62.5	1132	850.2	536.2	299.2	182.2	139.6	131.9	136.2	133.8	125.8
65.0	1174	898.6	566.3	304.9	176.7	129.7	118.5	120.4	119.6	115.6
67.5	1170	918.9	586.1	309.1	171.8	121.6	107.8	107.6	108.5	108.4
70.0	1092	887.6	576.5	306.3	165.5	114.2	99.06	98.07	100.4	103.6
72.5	923.4	783.1	520.8	286.6	155.5	106.5	91.46	90.66	94.74	100.8
75.0	689.3	617.3	425.0	248.0	140.4	97.57	84.12	84.11	89.97	98.11
77.5	461.9	435.0	316.9	199.8	121.4	87.63	76.49	77.66	84.59	93.82
80.0	294.1	286.0	222.9	153.6	101.6	77.10	68.37	70.47	77.65	86.85
82.5	188.3	186.2	153.8	115.8	83.49	66.55	60.21	62.49	68.81	77.35
85.0	125.3	124.5	108.0	87.67	68.15	56.76	52.20	54.22	59.11	66.47
87.5	87.41	87.14	78.40	67.35	55.49	48.09	44.81	46.23	49.69	55.38
90.0	64.15	64.32	59.39	53.05	45.68	40.81	38.38	39.20	41.30	45.26
92.5	49.68	49.76	46.66	42.97	38.17	34.91	33.06	33.28	34.38	36.89
95.0	40.51	40.34	38.17	35.60	32.42	30.18	28.72	28.59	28.86	30.19
97.5	34.28	33.82	32.08	30.08	27.85	26.19	24.99	24.58	24.38	24.75
100.0	29.74	29.07	27.47	25.83	24.10	22.72	21.69	21.08	20.57	20.35
102.5	26.23	25.25	23.79	22.28	20.87	19.66	18.73	18.03	17.35	16.72
105.0	23.30	22.18	20.77	19.32	18.08	16.97	16.18	15.39	14.71	13.87
107.5	20.72	19.57	18.32	16.92	15.88	14.74	14.06	13.22	12.60	11.59
110.0	18.29	17.24	16.23	14.97	14.06	12.95	12.34	11.41	10.90	9.914
112.5	16.18	15.31	14.48	13.33	12.55	11.44	10.96	10.03	9.450	8.469
115.0	14.39	13.63	13.03	11.95	11.34	10.23	9.749	8.782	8.300	7.243
117.5	12.88	12.22	11.79	10.84	10.30	9.173	8.739	7.771	7.254	6.203
120.0	11.63	11.02	10.78	9.847	9.357	8.297	7.866	6.867	6.444	5.325
122.5	10.56	10.01	9.777	8.943	8.553	7.527	7.126	6.093	5.703	4.624
125.0	9.643	9.099	8.998	8.137	7.812	6.824	6.483	5.451	5.091	4.020
127.5	8.807	8.295	8.229	7.403	7.177	6.222	5.947	4.915	4.621	3.586
130.0	7.964	7.488	7.488	6.700	6.538	5.619	5.410	4.477	4.214	3.284
132.5	7.190	6.679	6.714	6.027	5.908	5.082	4.937	4.038	3.843	2.950
135.0	6.453	5.943	6.045	5.387	5.367	4.583	4.503	3.703	3.540	2.783
137.5	5.783	5.337	5.476	4.822	4.864	4.150	4.101	3.335	3.305	2.615
140.0	5.210	4.734	4.937	4.350	4.426	3.713	3.763	3.097	3.169	2.481
142.5	4.637	4.199	4.397	3.884	4.027	3.346	3.492	2.862	3.033	2.380
145.0	4.132	3.728	3.932	3.448	3.656	3.079	3.259	2.694	2.899	2.280
147.5	3.763	3.325	3.561	3.081	3.354	2.878	3.090	2.626	2.798	2.213
150.0	3.363	2.988	3.324	2.814	3.187	2.711	2.955	2.425	2.730	2.179
152.5	3.158	2.755	3.123	2.679	2.984	2.543	2.820	2.324	2.596	2.078
155.0	2.889	2.519	2.855	2.445	2.784	2.376	2.687	2.222	2.461	1.944
157.5	2.721	2.316	2.686	2.311	2.616	2.209	2.552	2.088	2.393	1.844
160.0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

**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	706.1	706.5	706.0	706.9	706.3	707.4	707.0	706.7	707.8	706.6
2.5	681.3	681.7	678.8	679.6	677.0	678.8	678.0	677.1	679.5	678.4
5.0	643.3	641.7	635.8	635.5	631.0	632.3	631.5	629.9	633.7	634.0
7.5	591.3	586.7	576.6	574.1	565.9	566.8	566.0	564.6	570.3	571.7
10.0	525.4	516.3	502.0	497.1	486.4	486.7	485.5	483.4	491.4	491.0
12.5	451.6	438.2	420.4	413.1	400.9	400.2	399.5	398.2	406.8	411.2
15.0	377.8	362.1	343.4	335.0	323.5	321.8	321.7	320.7	328.6	334.0
17.5	312.6	297.0	280.5	272.7	263.2	261.3	261.6	261.1	267.5	272.7
20.0	262.0	248.6	235.5	229.3	222.2	220.4	221.0	220.8	225.4	229.9
22.5	226.2	215.6	206.4	202.0	197.3	195.6	196.3	196.2	199.3	202.7
25.0	203.1	195.7	189.8	186.7	183.7	182.2	182.9	182.7	184.6	187.4
27.5	189.7	184.9	181.8	179.7	177.6	176.1	176.7	176.3	177.3	179.7
30.0	183.3	180.7	179.3	178.0	176.5	174.6	175.1	174.3	174.9	176.9
32.5	182.0	180.9	180.9	179.8	178.3	176.0	175.9	174.8	175.0	177.1
35.0	183.9	183.8	184.0	182.8	180.5	177.6	176.7	175.5	175.8	178.0
37.5	187.8	187.2	186.5	184.1	180.5	176.8	175.5	174.0	174.8	177.3
40.0	191.5	189.0	185.9	182.0	176.7	172.4	170.7	169.3	170.3	173.4
42.5	193.2	187.5	181.6	175.7	169.0	164.5	162.7	161.1	162.7	165.6
45.0	191.4	182.3	173.2	166.1	158.8	154.0	152.2	150.7	152.5	155.2
47.5	185.5	173.4	162.3	154.5	147.2	142.5	140.8	139.5	140.8	143.5
50.0	175.8	161.9	150.1	142.3	135.3	131.0	129.7	128.4	129.5	131.8
52.5	163.4	149.3	137.7	130.6	124.3	120.4	119.2	118.1	119.0	121.0
55.0	149.9	136.8	126.4	120.1	114.6	111.2	110.2	109.1	109.9	111.5
57.5	137.2	125.8	116.9	111.5	106.5	103.4	102.4	101.4	102.2	103.7
60.0	125.9	116.9	109.5	104.7	100.1	96.93	95.93	95.12	96.02	97.55
62.5	117.0	110.6	104.5	99.71	95.12	91.70	90.54	90.00	91.22	93.16
65.0	110.6	106.4	101.5	96.48	91.32	87.50	86.17	85.94	87.62	90.31
67.5	107.1	104.8	100.4	94.53	88.45	83.94	82.54	82.63	85.09	88.85
70.0	105.6	104.9	100.3	93.38	86.02	80.79	79.39	79.39	83.14	88.21
72.5	105.2	105.4	100.4	92.36	83.62	77.82	76.27	77.30	81.32	87.41
75.0	103.9	104.6	99.28	90.56	80.93	74.39	72.71	74.14	78.99	85.61
77.5	99.94	101.0	95.91	87.25	77.40	70.29	68.26	70.29	75.48	82.09
80.0	92.66	94.19	89.61	81.97	72.57	65.16	62.70	65.16	70.42	76.50
82.5	82.59	84.63	80.91	74.62	65.91	58.89	56.19	58.66	63.99	69.17
85.0	71.19	73.65	70.80	65.72	57.56	51.09	48.54	50.78	56.01	60.42
87.5	59.27	61.87	60.17	56.14	48.32	42.16	39.85	41.83	47.00	51.23
90.0	48.18	50.70	49.80	46.55	39.15	32.75	30.51	32.54	37.78	42.27
92.5	38.80	40.88	40.62	38.14	30.61	24.58	22.28	24.02	29.53	34.29
95.0	31.13	32.70	32.65	30.69	23.52	17.77	15.63	17.16	22.45	27.57
97.5	24.93	25.97	25.75	23.77	17.58	12.69	11.08	12.26	16.67	21.56
100.0	20.04	20.52	20.18	18.15	13.19	9.442	8.316	9.372	12.60	16.87
102.5	16.29	16.35	15.98	14.01	10.27	7.469	6.762	7.672	9.829	13.45
105.0	13.41	13.16	12.88	11.07	8.208	6.221	5.817	6.558	7.910	10.97
107.5	11.23	10.80	10.49	8.820	6.858	5.382	5.114	5.779	6.628	8.950
110.0	9.414	8.839	8.539	7.099	5.909	4.707	4.537	5.170	5.686	7.402
112.5	7.943	7.193	6.895	5.731	5.131	4.067	4.063	4.628	4.944	6.155
115.0	6.716	5.819	5.597	4.718	4.456	3.596	3.623	4.124	4.270	5.216
117.5	5.708	4.781	4.584	3.907	3.882	3.095	3.284	3.716	3.696	4.440
120.0	4.868	3.950	3.875	3.304	3.375	2.688	2.876	3.278	3.231	3.834
122.5	4.254	3.314	3.362	2.828	2.903	2.319	2.503	2.973	2.758	3.330
125.0	3.756	2.912	3.028	2.427	2.568	1.982	2.232	2.636	2.421	2.993
127.5	3.388	2.645	2.726	2.124	2.261	1.714	1.928	2.396	2.118	2.691
130.0	3.151	2.411	2.523	2.086	2.058	1.513	1.726	2.126	1.850	2.355
132.5	2.916	2.275	2.354	2.049	1.891	1.379	1.625	2.024	1.717	2.185
135.0	2.782	2.043	2.187	2.011	1.788	1.312	1.558	1.957	1.683	2.151
137.5	2.714	1.976	2.051	1.973	1.626	1.312	1.592	1.987	1.683	1.936
140.0	2.647	1.943	2.051	1.935	1.463	1.347	1.660	1.952	1.818	1.721
142.5	2.547	1.909	2.017	1.897	1.301	1.481	1.475	1.952	1.591	1.506
145.0	2.479	1.671	1.765	1.859	1.138	1.548	1.291	1.619	1.364	1.291
147.5	2.446	1.432	1.513	1.821	0.9755	1.327	1.106	1.719	1.136	1.075
150.0	2.379	1.193	1.261	1.518	0.8129	1.106	0.9220	1.788	0.9091	0.8603
152.5	2.345	0.9547	1.009	1.214	0.6503	0.8844	0.7376	1.855	0.6818	0.6453
155.0	2.278	0.7160	0.7564	0.9106	0.4877	0.6633	0.5532	1.889	0.4546	0.4302
157.5	2.178	0.4773	0.5043	0.6071	0.3252	0.4422	0.3688	1.890	0.2273	0.2151
160.0	0	0.2387	0.2521	0.3035	0.1626	0.2211	0.1844	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

**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	707.4	707.3	707.0	706.9	708.3	707.8	707.4	706.8	707.4	706.4
2.5	680.4	680.4	682.7	683.4	687.2	688.0	689.9	691.4	693.8	694.9
5.0	638.5	640.1	645.4	648.5	656.3	660.2	665.6	670.2	676.0	679.8
7.5	580.9	584.8	594.8	601.0	614.3	622.4	633.1	641.9	652.6	659.9
10.0	507.6	514.5	529.8	541.4	559.9	573.2	591.6	606.2	623.6	636.6
12.5	426.7	437.0	457.3	473.4	498.1	517.9	544.1	565.6	590.5	610.5
15.0	349.4	362.1	383.8	403.5	433.1	459.1	492.5	521.8	553.9	581.5
17.5	286.3	298.6	319.2	340.4	371.3	400.9	439.4	475.5	516.5	552.7
20.0	240.3	250.6	268.5	288.0	317.5	348.2	388.3	430.0	477.7	521.3
22.5	210.2	218.5	232.7	249.4	274.8	303.6	343.7	387.9	440.8	492.5
25.0	192.4	198.9	209.5	222.7	243.6	268.8	306.1	350.7	407.1	465.8
27.5	182.9	187.9	195.5	205.9	222.2	243.3	276.1	318.8	377.5	442.1
30.0	179.2	183.1	188.5	196.3	208.7	225.6	253.4	292.9	350.4	420.5
32.5	179.0	182.5	186.1	192.2	201.1	214.3	236.9	272.1	327.6	399.8
35.0	180.3	183.8	187.2	192.1	198.4	207.9	225.4	255.8	307.4	380.9
37.5	180.6	185.1	189.1	194.0	198.7	205.3	218.2	244.0	291.1	364.3
40.0	177.8	183.7	189.7	195.5	200.3	205.1	214.2	235.1	277.9	349.9
42.5	171.2	178.5	187.3	195.3	201.5	205.3	212.0	228.5	267.2	337.5
45.0	161.4	169.5	180.6	191.0	199.7	204.5	209.6	223.0	257.8	326.9
47.5	149.6	158.0	170.2	182.6	194.2	200.4	205.6	216.9	249.7	319.0
50.0	137.3	145.2	157.4	170.7	184.2	192.4	198.5	209.3	242.1	315.2
52.5	125.8	132.7	144.0	156.7	170.7	180.0	187.6	199.3	235.5	316.0
55.0	115.4	121.5	131.1	142.0	155.3	164.2	173.0	187.2	229.4	320.3
57.5	107.1	112.1	119.7	128.4	139.3	147.0	156.4	174.6	223.8	326.4
60.0	100.6	104.8	110.5	116.4	124.3	130.6	141.0	162.8	218.1	333.3
62.5	96.22	99.81	103.6	107.1	112.0	117.1	128.1	152.5	212.7	339.2
65.0	93.76	97.10	99.39	100.8	103.1	107.0	117.8	143.6	207.0	341.6
67.5	93.00	96.42	97.67	97.36	97.21	99.49	109.7	135.4	199.5	336.5
70.0	93.37	97.11	97.63	95.78	93.44	93.85	102.3	126.5	187.3	315.6
72.5	93.53	97.72	97.97	94.81	90.58	88.80	95.11	115.8	169.0	276.1
75.0	92.32	96.62	96.80	92.83	87.26	83.53	87.28	103.5	145.3	224.9
77.5	88.64	92.45	92.69	88.37	82.41	77.30	78.92	90.37	120.5	173.0
80.0	82.32	85.17	85.17	80.93	75.40	69.94	70.07	77.49	97.53	129.6
82.5	74.05	75.86	75.48	71.36	66.64	61.65	61.15	65.58	78.58	97.20
85.0	64.33	65.08	64.61	60.89	57.14	53.10	52.50	55.18	63.43	74.11
87.5	54.37	54.37	53.90	50.70	47.94	45.00	44.72	46.37	51.65	58.03
90.0	44.89	44.57	44.00	41.69	39.86	37.91	37.93	39.21	42.75	46.51
92.5	36.54	36.08	35.65	34.13	33.19	32.15	32.51	33.49	35.92	38.46
95.0	29.75	28.91	28.91	28.06	27.87	27.50	28.05	28.98	30.75	32.50
97.5	23.93	23.51	23.49	23.18	23.44	23.57	24.34	25.18	26.60	28.01
100.0	19.15	19.01	19.09	19.17	19.77	20.22	21.01	21.94	23.14	24.37
102.5	15.47	15.59	15.60	15.96	16.63	17.33	18.14	19.07	20.21	21.35
105.0	12.62	12.92	12.92	13.44	14.08	14.90	15.68	16.72	17.65	18.83
107.5	10.34	10.77	10.87	11.53	12.08	12.98	13.73	14.77	15.59	16.75
110.0	8.461	8.994	9.153	9.952	10.50	11.47	12.08	13.15	13.91	15.03
112.5	6.784	7.482	7.709	8.654	9.184	10.18	10.77	11.80	12.51	13.61
115.0	5.393	6.177	6.501	7.531	8.071	9.106	9.631	10.72	11.33	12.37
117.5	4.418	5.102	5.526	6.522	7.058	8.126	8.617	9.708	10.32	11.36
120.0	3.648	4.329	4.621	5.714	6.217	7.283	7.741	8.831	9.386	10.39
122.5	3.112	3.758	3.923	5.041	5.484	6.573	6.999	8.123	8.575	9.513
125.0	2.814	3.421	3.487	4.472	4.910	5.968	6.398	7.450	7.832	8.743
127.5	2.545	3.120	3.150	4.001	4.336	5.463	5.824	6.811	7.132	8.004
130.0	2.244	2.918	2.782	3.631	3.770	4.823	5.149	6.137	6.356	7.164
132.5	2.141	2.750	2.616	3.361	3.399	4.317	4.574	5.530	5.746	6.490
135.0	1.909	2.516	2.482	3.160	3.196	3.912	4.040	4.924	5.078	5.819
137.5	1.844	2.481	2.415	3.092	2.962	3.708	3.669	4.419	4.471	5.116
140.0	1.660	2.448	2.381	3.025	2.894	3.503	3.401	4.114	3.968	4.570
142.5	1.475	2.447	2.314	2.958	2.794	3.336	3.199	3.809	3.633	4.132
145.0	1.291	2.115	2.314	2.924	2.793	3.301	3.130	3.673	3.397	3.896
147.5	1.106	2.079	2.294	2.857	2.659	3.234	2.930	3.470	3.195	3.630
150.0	0.9220	1.732	2.274	2.790	2.592	3.100	2.862	3.336	2.994	3.393
152.5	0.7376	1.386	2.253	2.523	2.523	2.999	2.726	3.201	2.859	3.259
155.0	0.5532	1.039	2.233	2.487	2.356	2.897	2.559	3.066	2.724	3.125
157.5	0.3688	0.6929	2.213	2.487	2.289	2.664	2.357	2.898	2.557	2.990
160.0	0.1844	0.3464	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

**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	707.3	706.9	707.4	706.9	707.6	706.4	707.2	707.1	706.9	707.0
2.5	697.9	699.4	701.9	703.7	706.1	706.8	709.3	710.8	712.2	713.5
5.0	686.4	690.3	695.2	699.3	703.2	705.8	710.2	712.7	715.7	717.8
7.5	671.0	678.7	686.8	694.0	700.0	704.1	709.7	712.9	716.5	718.7
10.0	652.7	664.7	676.4	686.0	694.9	700.3	706.9	710.6	714.6	716.8
12.5	631.7	648.5	665.0	677.9	689.2	696.5	704.0	707.9	711.7	713.6
15.0	609.6	633.0	654.5	670.3	683.9	693.0	700.9	704.6	708.2	709.3
17.5	588.0	616.6	643.6	663.6	680.2	690.5	698.8	702.0	705.2	704.0
20.0	565.7	601.9	633.9	659.2	678.7	689.7	698.3	701.0	702.5	700.6
22.5	545.1	590.1	629.0	659.3	681.1	694.1	702.8	704.1	703.3	698.4
25.0	527.3	581.3	628.3	664.3	689.3	702.7	711.4	712.3	708.2	699.9
27.5	512.9	576.7	631.5	673.4	701.2	717.6	725.5	725.1	718.1	705.4
30.0	499.6	573.7	636.7	684.3	717.5	737.5	744.0	741.3	730.9	714.5
32.5	486.5	571.4	644.8	698.6	737.6	760.5	766.7	762.5	748.4	726.7
35.0	474.3	569.3	652.6	715.8	759.7	785.9	794.7	788.5	770.2	742.5
37.5	463.1	568.7	662.8	736.2	786.7	817.0	826.6	820.6	796.1	761.3
40.0	453.9	568.9	675.9	760.4	818.4	855.3	866.6	857.7	828.4	785.0
42.5	444.6	571.3	690.9	788.0	857.3	901.7	916.3	904.6	868.0	814.4
45.0	438.6	577.0	711.0	823.0	904.1	959.2	976.9	963.2	917.1	849.2
47.5	437.0	590.0	741.0	869.7	961.8	1025	1046	1028	971.2	887.9
50.0	442.8	612.8	782.1	926.0	1028	1096	1116	1093	1022	922.2
52.5	456.4	644.9	832.9	988.9	1096	1163	1177	1143	1059	939.6
55.0	476.7	685.9	890.6	1056	1163	1222	1224	1172	1072	934.0
57.5	501.8	732.4	951.2	1120	1220	1262	1252	1180	1062	904.8
60.0	529.2	781.4	1011	1175	1262	1289	1257	1165	1029	857.2
62.5	555.3	825.3	1057	1206	1274	1278	1227	1118	972.0	793.2
65.0	571.7	847.8	1072	1194	1237	1214	1148	1029	884.8	713.6
67.5	569.3	832.0	1032	1118	1132	1083	1012	893.6	766.9	617.5
70.0	530.7	760.2	924.9	965.5	955.1	889.9	827.3	724.3	626.8	508.9
72.5	453.0	628.7	746.2	750.5	725.5	663.1	617.4	544.2	482.5	398.0
75.0	351.8	469.1	540.0	525.4	500.9	452.5	426.2	383.2	350.1	299.2
77.5	254.3	320.1	361.3	347.1	329.5	297.3	283.5	260.6	245.5	217.0
80.0	177.1	214.1	236.6	228.0	217.8	197.9	190.6	178.3	171.8	156.4
82.5	123.9	144.2	157.6	152.7	147.2	136.5	133.4	126.6	123.4	114.7
85.0	89.40	100.6	108.8	106.3	104.1	98.85	97.94	94.35	92.32	86.96
87.5	67.02	73.35	78.15	77.31	77.18	75.31	75.77	73.55	72.10	68.43
90.0	52.09	55.86	58.89	59.07	59.99	60.22	61.14	59.45	58.22	55.55
92.5	42.06	44.50	46.66	47.13	48.74	49.77	50.97	49.65	48.32	46.42
95.0	35.04	36.85	38.60	39.30	40.95	42.36	43.55	42.40	41.13	39.55
97.5	29.93	31.39	32.93	33.82	35.38	36.74	37.75	36.78	35.60	34.23
100.0	25.93	27.32	28.68	29.66	31.14	32.33	33.11	32.19	31.06	29.90
102.5	22.74	24.03	25.33	26.38	27.69	28.68	29.19	28.33	27.23	26.18
105.0	20.08	21.35	22.56	23.59	24.68	25.54	25.82	24.97	23.90	22.90
107.5	17.83	19.07	20.14	21.09	21.97	22.60	22.72	21.97	20.88	19.89
110.0	15.95	17.02	17.90	18.75	19.40	19.78	19.80	19.19	18.16	17.27
112.5	14.36	15.38	15.95	16.71	17.08	17.43	17.31	16.83	15.84	14.95
115.0	12.99	13.94	14.35	14.97	15.18	15.46	15.22	14.85	13.89	13.08
117.5	11.79	12.66	12.95	13.50	13.57	13.81	13.53	13.17	12.24	11.50
120.0	10.78	11.55	11.71	12.20	12.15	12.37	11.98	11.69	10.86	10.23
122.5	9.836	10.57	10.67	11.13	10.94	11.19	10.77	10.55	9.631	9.118
125.0	8.971	9.670	9.697	10.13	9.941	10.12	9.671	9.477	8.621	8.149
127.5	8.163	8.798	8.756	9.191	8.935	9.139	8.626	8.538	7.676	7.311
130.0	7.254	7.826	7.763	8.156	7.909	8.082	7.548	7.529	6.704	6.440
132.5	6.510	7.052	6.923	7.319	7.037	7.231	6.715	6.688	5.971	5.735
135.0	5.777	6.348	6.151	6.552	6.208	6.470	5.907	5.983	5.298	5.065
137.5	5.103	5.645	5.454	5.819	5.505	5.692	5.240	5.279	4.590	4.463
140.0	4.468	4.975	4.779	5.176	4.840	5.091	4.562	4.675	3.989	4.021
142.5	3.929	4.401	4.115	4.541	4.169	4.487	3.962	4.102	3.456	3.589
145.0	3.626	4.095	3.779	4.206	3.804	4.151	3.657	3.831	3.220	3.385
147.5	3.290	3.692	3.378	3.777	3.402	3.686	3.257	3.494	2.885	3.083
150.0	3.056	3.524	3.078	3.506	3.070	3.415	2.922	3.260	2.751	2.949
152.5	2.888	3.290	2.911	3.306	2.903	3.215	2.788	3.059	2.583	2.815
155.0	2.720	3.122	2.743	3.106	2.735	3.047	2.552	2.891	2.382	2.681
157.5	2.586	2.955	2.543	2.938	2.504	2.879	2.418	2.722	2.248	2.547
160.0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

**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	707.4	707.0	706.1	707.0	706.6	706.1	706.1	706.5	706.0	706.9
2.5	715.3	716.1	716.7	718.1	719.3	719.4	720.3	720.7	720.8	721.2
5.0	719.9	720.9	721.7	723.7	724.8	725.3	726.1	726.8	727.3	727.2
7.5	720.5	721.9	722.6	723.8	725.4	725.1	726.0	725.6	726.0	725.6
10.0	718.5	719.5	719.9	720.9	721.4	720.6	720.8	719.7	719.3	718.6
12.5	715.0	715.5	714.5	714.3	714.9	711.9	711.9	709.3	709.0	706.8
15.0	708.8	708.5	706.8	705.3	704.0	700.4	699.2	695.0	694.5	692.0
17.5	702.5	699.7	696.8	693.5	690.4	685.6	683.8	678.9	677.1	673.8
20.0	695.8	690.6	685.5	680.1	675.5	669.5	667.0	661.0	658.3	654.1
22.5	691.5	682.6	674.9	666.7	660.4	651.4	648.2	642.2	639.0	634.1
25.0	689.0	676.3	665.1	654.1	644.1	633.4	628.4	621.7	617.8	611.3
27.5	689.3	672.3	656.5	641.9	629.3	616.0	608.5	599.9	593.7	585.8
30.0	693.1	670.2	649.8	630.2	614.4	596.5	587.1	575.4	567.2	556.7
32.5	699.7	670.3	644.5	620.0	599.0	577.6	564.4	549.9	538.6	525.6
35.0	709.4	671.5	639.9	609.8	585.1	560.2	543.6	525.5	510.6	495.4
37.5	719.6	672.9	634.7	599.8	572.3	546.3	526.8	506.0	487.8	469.1
40.0	731.9	674.6	628.9	589.8	562.1	537.7	517.4	493.7	471.2	448.9
42.5	746.8	677.3	621.0	579.6	554.9	536.3	517.6	490.8	461.6	433.7
45.0	764.4	679.2	612.0	568.3	550.0	541.1	526.5	496.4	458.1	422.4
47.5	784.7	679.9	599.5	553.6	544.7	548.3	540.9	507.7	459.3	413.8
50.0	799.6	675.5	582.2	532.1	532.6	550.2	551.9	517.7	460.7	406.0
52.5	800.6	661.1	556.0	500.9	508.5	538.5	550.7	518.8	457.8	395.3
55.0	782.3	630.1	517.7	458.5	471.3	510.0	533.5	505.6	445.3	378.3
57.5	742.7	585.4	470.1	409.2	422.7	466.9	499.7	477.7	422.0	354.9
60.0	688.7	530.9	418.8	359.2	369.0	413.3	452.6	437.8	388.5	325.0
62.5	625.3	473.8	368.7	312.6	317.2	355.8	397.3	389.2	347.5	291.1
65.0	556.5	416.8	322.9	271.9	270.9	299.9	339.2	336.6	303.7	255.8
67.5	483.1	361.8	281.7	237.2	231.4	249.8	282.2	284.2	259.7	220.7
70.0	405.6	308.2	244.2	207.4	198.4	207.2	230.5	234.9	218.0	186.9
72.5	327.7	255.9	209.2	180.3	170.4	171.6	186.2	190.0	179.4	155.0
75.0	254.4	206.8	175.9	155.0	146.1	142.4	149.4	151.4	144.9	126.0
77.5	191.9	162.8	144.3	130.8	124.2	118.1	119.7	119.5	114.9	100.4
80.0	143.1	125.8	115.8	108.1	104.3	98.31	96.48	94.16	90.67	79.48
82.5	107.4	97.21	92.25	88.17	86.48	81.43	78.47	74.82	71.58	62.92
85.0	82.48	76.39	73.90	72.08	71.37	67.46	64.19	60.02	56.73	49.71
87.5	65.54	61.54	60.39	59.30	59.08	55.75	52.75	48.44	45.15	39.25
90.0	53.81	51.12	50.44	49.93	49.59	46.92	44.13	39.92	36.30	30.99
92.5	45.26	43.55	43.19	42.80	42.49	40.18	37.54	33.45	29.51	24.51
95.0	38.82	37.46	37.24	36.83	36.49	34.57	32.22	28.28	24.10	19.36
97.5	33.68	32.56	32.22	31.68	31.28	29.55	27.51	23.90	19.82	15.52
100.0	29.31	28.27	27.67	26.89	26.34	24.71	23.03	20.04	16.39	12.61
102.5	25.48	24.37	23.54	22.57	21.85	20.41	19.00	16.66	13.33	10.63
105.0	22.07	20.94	20.01	18.94	18.11	16.76	15.34	13.51	10.98	8.976
107.5	18.98	17.89	16.89	15.94	14.94	13.68	12.16	10.93	9.024	7.595
110.0	16.26	15.31	14.30	13.35	12.14	11.02	9.608	8.753	7.446	6.481
112.5	13.97	13.13	12.08	11.15	9.838	8.939	7.626	7.139	6.078	5.601
115.0	12.00	11.33	10.30	9.342	8.020	7.396	6.254	5.904	4.937	4.794
117.5	10.48	9.649	8.581	7.888	6.701	6.183	5.189	4.829	4.226	4.118
120.0	9.176	8.411	7.238	6.643	5.588	5.174	4.282	4.057	3.419	3.445
122.5	7.969	7.404	6.175	5.595	4.576	4.301	3.477	3.452	2.687	2.970
125.0	7.073	6.501	5.400	4.889	3.808	3.630	2.945	2.817	2.250	2.532
127.5	6.266	5.797	4.694	4.282	3.267	3.092	2.440	2.382	1.913	2.195
130.0	5.460	5.094	4.055	3.709	2.795	2.721	1.909	2.079	1.680	1.857
132.5	4.821	4.523	3.523	3.337	2.423	2.285	1.639	1.877	1.410	1.587
135.0	4.223	3.988	3.119	3.000	2.122	2.016	1.490	1.543	1.210	1.384
137.5	3.652	3.586	2.753	2.731	1.853	1.878	1.341	1.408	0.9748	0.8143
140.0	3.252	3.247	2.482	2.496	1.786	1.811	1.192	1.341	0.9749	0.7329
142.5	2.915	2.982	2.249	2.393	1.587	1.811	1.043	1.307	1.010	0.6515
145.0	2.714	2.846	2.181	2.291	1.389	1.744	0.8943	1.284	1.043	0.5700
147.5	2.480	2.646	2.013	2.157	1.191	1.710	0.7452	1.262	1.077	0.4886
150.0	2.380	2.578	1.913	2.089	0.9922	1.644	0.5962	1.240	1.111	0.4072
152.5	2.212	2.444	1.530	2.055	0.7937	1.643	0.4471	1.217	1.144	0.3257
155.0	2.179	2.344	1.148	1.954	0.5953	1.576	0.2981	1.195	1.178	0.2443
157.5	1.978	2.244	0.7651	1.954	0.3969	1.576	0.1490	1.173	1.212	0.1629
160.0	0	0	0.3826	0	0.1984	0	0	0	0	0.0814
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

Test Report No. P295C

Photometric Data Table [cd]

G/C	350.0	355.0
0.0	706.3	707.4
2.5	721.4	722.4
5.0	728.1	728.6
7.5	726.5	726.9
10.0	719.5	719.5
12.5	707.4	707.2
15.0	691.5	691.1
17.5	673.2	671.9
20.0	653.7	651.6
22.5	632.4	630.5
25.0	608.8	606.3
27.5	581.6	578.0
30.0	551.4	545.4
32.5	518.4	509.9
35.0	485.5	475.8
37.5	456.5	446.2
40.0	432.9	421.1
42.5	413.8	400.4
45.0	397.6	381.7
47.5	382.8	363.9
50.0	368.0	345.8
52.5	351.9	326.4
55.0	331.9	304.9
57.5	308.4	280.8
60.0	280.9	255.1
62.5	252.0	228.6
65.0	222.7	202.4
67.5	194.0	177.7
70.0	166.0	153.1
72.5	138.6	128.7
75.0	112.8	104.2
77.5	89.50	81.59
80.0	70.25	62.77
82.5	54.81	47.96
85.0	42.88	36.55
87.5	33.28	27.47
90.0	25.83	20.71
92.5	19.93	15.67
95.0	15.23	11.83
97.5	11.87	9.337
100.0	9.639	7.846
102.5	8.120	7.003
105.0	7.040	6.465
107.5	6.105	5.927
110.0	5.429	5.355
112.5	4.753	4.816
115.0	4.143	4.279
117.5	3.542	3.773
120.0	2.967	3.268
122.5	2.425	2.797
125.0	2.020	2.427
127.5	1.686	2.057
130.0	1.381	1.753
132.5	1.145	1.517
135.0	0.9765	1.348
137.5	0.6417	0.8156
140.0	0.7085	0.7904
142.5	0.7088	0.7652
145.0	0.8105	0.7401
147.5	0.8712	0.7149
150.0	0.9318	0.6897
152.5	0.9924	0.6645
155.0	1.053	0.6393
157.5	1.114	0.6729
160.0	0	0
162.5	0	0
165.0	0	0
167.5	0	0
170.0	0	0
172.5	0	0
175.0	0	0
177.5	0	0
180.0	0	0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks:

### 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
Mar. 27, 2024	0	Initial Issue

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### END OF REPORT

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.5°C  
 Operators: Charles  
 Test Date: 27 March 2024

y Range: 0 - 180DEG  
 y Interval: 2.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.463  
 Humidity: 27.1%  
 Test Distance: 26.000m [K=0.8358]  
 Remarks: