



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L022512701



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Report Prepared For: Teron Lighting LLC
33 Donald Drive, Fairfield OH 45014

Model Number: SHRL24-WLN-L28.5-ZE-UNV-30K

Test: Photometric/Colorimetric/Electrical Test

Issue Date: 3/5/2025
Reference: N/A
Amendment: N/A

Standards Used: Appropriate part or all test guidelines were used for test performed:

IES LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI/IES LM79: 2019 Approved Methods for Optical and Electrical Measurements of Solid-State Lighting Products

ANSI/NEMA C78.377: 2017 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77-10:2014: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Date of Tests: 3/4/25

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S3	6/21/26
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	6/25/26
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	Teron Lighting LLC
Model Number:	SHRL24-WLN-L28.5-ZE-UNV-30K
Driver Model Number:	KEYSTONE KTLD-28-UV-PS690-42-VDIM-AF6

Test Summary

Total Lumens:	3246.00
Efficacy:	111.53
Color Redering Index:	83.9
Correlated Color Temperature:	2931
Input Voltage (VAC/60Hz):	120.01
Input Current (Amp):	0.2456
Input Power (W):	29.11
Input Power Factor:	0.9876
Current ATHD (%):	12.4%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:50
Total Operating Time (Hours):	1:25

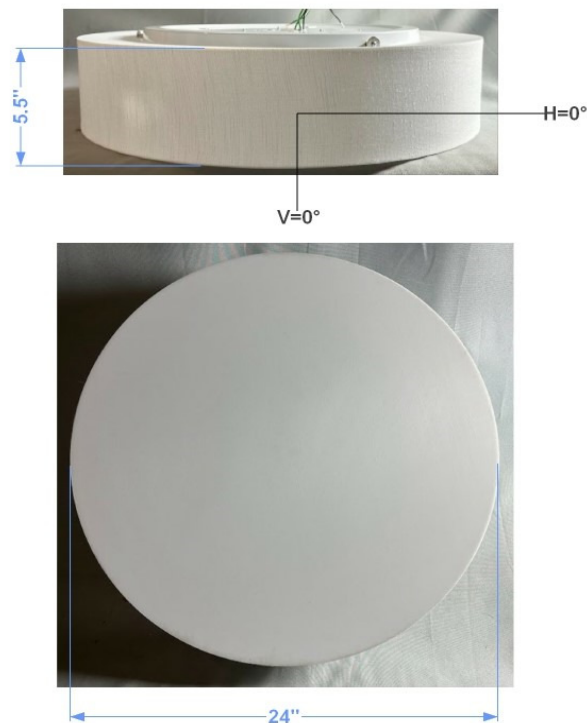
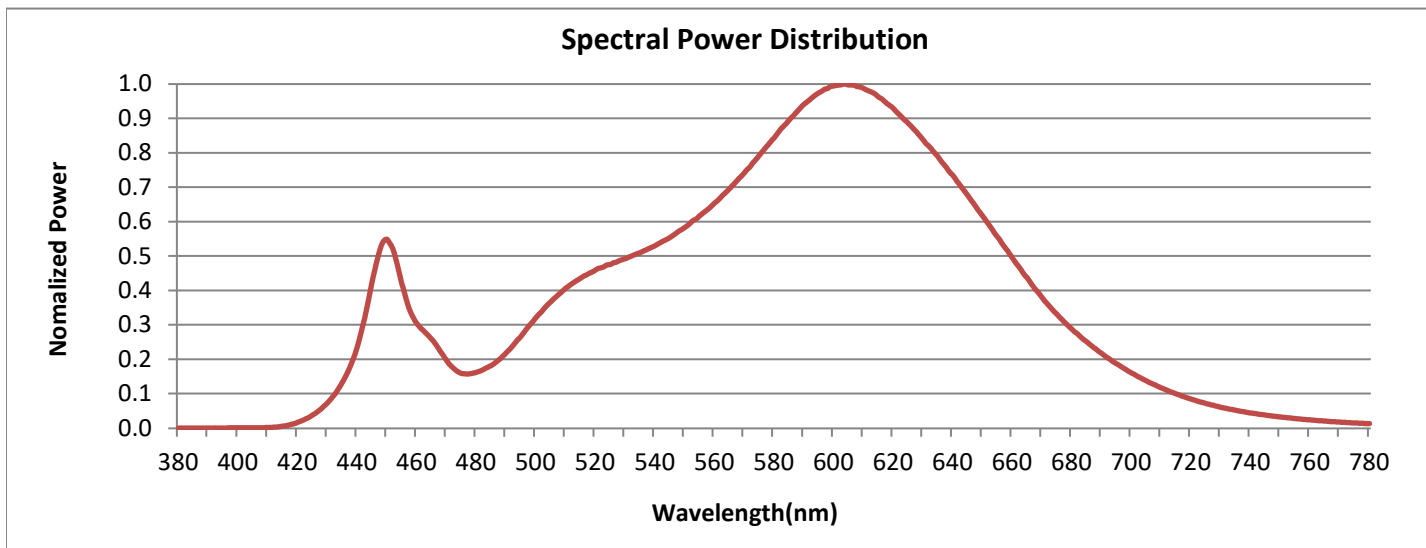


FIG. 1 LUMINAIRE

Colorimetry Test Results

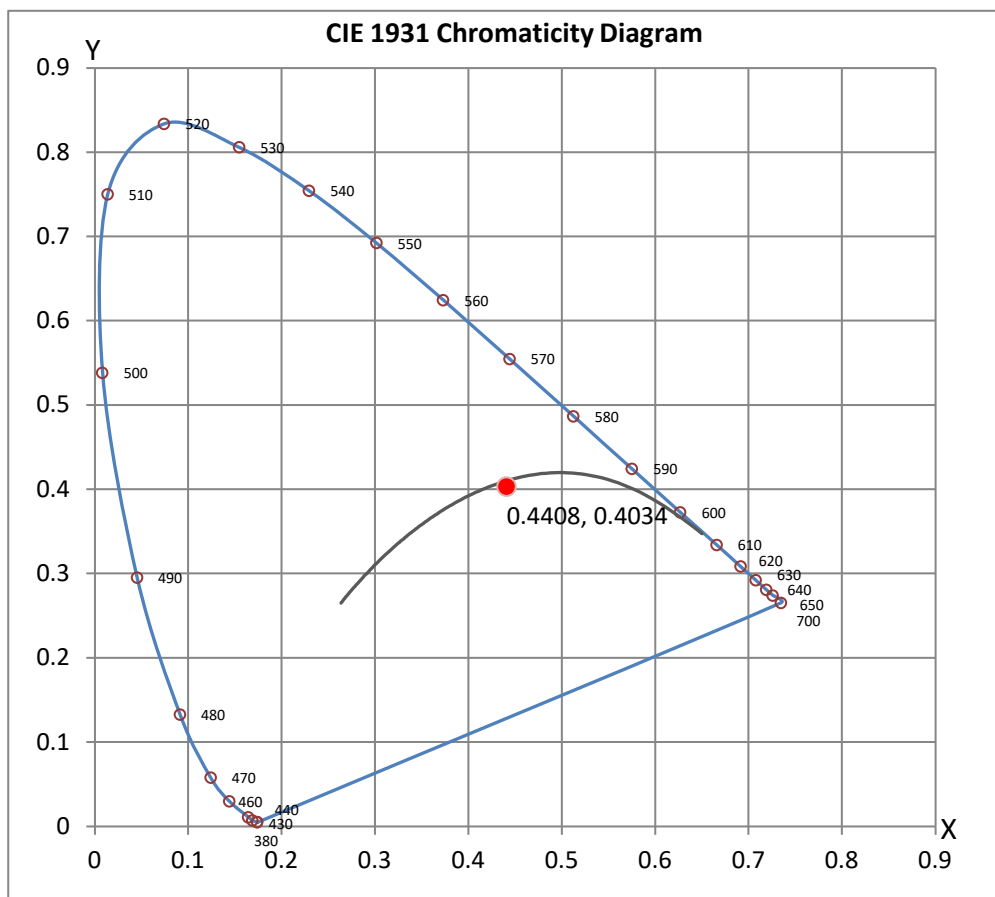


CRI & CCT

x	0.4408
y	0.4034
u'	0.2534
v'	0.5217
CRI	83.90
CCT	2931
Duv	-0.00078

R Values

R1	82.35
R2	91.45
R3	96.67
R4	82.94
R5	83.25
R6	90.65
R7	83.02
R8	60.52
R9	12.29
R10	81.17
R11	83.42
R12	74.73
R13	84.48
R14	98.77
R15	74.85



Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

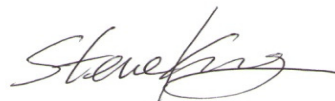
Electrical measurements are measured using the listed equipment.

Disclaimers:

The results related only to the samples as received and tested. This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government.

Report Prepared by : JG

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports.*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L022512701.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L022512701
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUE DATE] 3/4/2025
[MANUFAC] Teron Lighting LLC
[LUMCAT] SHRL24-WLN-L28.5-ZE-UNV-30K
[LUMINAIRE] Architectural Indoor LED Ceiling Luminaire
[BALLASTCAT] KEYSTONE KTLD-28-UV-PS690-42-VDIM-AF6
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120AC
[TEST PROCEDURE] IESNA:LM-79-19

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3246
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	29.11
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.08 ft (Diameter)
Luminous Width (90-270)	2.08 ft (Diameter)
Luminous Height	0.46 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1704	1697	1687
55	1594	1586	1578
65	1471	1459	1447
75	1318	1300	1300
85	1136	1106	1110

IES INDOOR REPORT
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CANDELA TABULATION

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0	660	660	660	660	660	660	660	660	660	660
5	659	659	659	659	658	659	658	659	658	658
10	654	654	654	654	654	654	654	653	654	653
15	645	644	644	645	644	644	644	644	643	644
20	630	630	630	630	630	629	629	629	629	628
25	610	610	611	610	610	609	609	609	608	608
30	586	586	585	585	586	585	584	583	583	583
35	557	557	557	557	556	556	555	555	554	553
40	525	524	524	524	523	523	522	521	521	520
45	488	487	487	487	486	486	485	484	484	483
50	448	447	447	446	446	446	445	444	443	443
55	405	405	404	404	403	403	403	402	401	401
60	361	361	360	360	359	359	358	357	357	356
65	315	315	314	313	313	312	312	312	311	310
70	268	268	267	266	266	266	265	265	265	264
75	221	221	220	219	218	218	219	219	218	218
80	176	175	174	172	171	172	173	173	172	172
85	132	132	131	129	128	129	130	129	129	129
90	98	98	98	98	98	97	97	97	97	97
95	105	105	105	105	105	104	104	105	104	105
100	114	115	114	114	114	114	114	114	114	115
105	125	125	125	125	125	125	125	125	125	126
110	136	136	136	136	136	135	135	136	136	136
115	146	145	145	145	145	145	145	145	146	147
120	156	156	155	154	155	154	155	155	155	156
125	165	165	165	165	164	164	164	164	165	166
130	175	175	175	174	174	174	173	174	173	176
135	185	184	184	183	183	183	183	175	182	185
140	191	191	191	190	190	190	185	181	190	194
145	196	196	196	196	196	195	180	190	197	201
150	200	200	200	201	198	186	187	193	198	200
155	200	200	199	194	185	186	195	196	197	195
160	185	184	181	180	184	189	191	192	192	190
165	169	169	171	175	177	179	180	180	179	179
170	167	166	167	167	168	169	170	171	171	171
175	193	191	190	188	186	185	185	185	186	186
180	192	192	192	192	192	192	192	192	192	192

Vert. Horizontal Angles

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>
0	660	660	660	660	660	660	660	660	660
5	658	658	658	658	658	658	658	657	657
10	653	653	653	653	653	653	652	653	652
15	643	643	643	643	643	642	642	642	643
20	628	628	628	627	627	627	627	627	626
25	608	607	607	606	606	606	607	606	606
30	582	582	582	581	581	581	581	581	581
35	553	552	552	552	552	551	551	551	552
40	519	519	518	518	518	518	518	518	517
45	483	482	481	481	481	480	480	481	480
50	442	442	441	441	441	440	440	440	441
55	400	399	399	398	398	398	398	398	398
60	355	355	354	353	353	353	353	353	353

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

65	310	309	308	307	307	307	307	307	307
70	264	263	262	261	260	259	260	261	261
75	217	216	215	214	212	212	213	214	214
80	171	171	169	168	166	166	168	168	169
85	128	127	127	126	124	124	126	126	126
90	97	97	98	98	98	99	99	99	99
95	105	105	106	106	106	107	107	107	107
100	115	115	116	116	116	117	117	117	117
105	126	126	127	127	127	128	128	128	128
110	137	137	137	138	138	138	138	138	139
115	147	146	147	147	148	147	148	148	148
120	156	156	157	157	158	158	158	158	158
125	166	167	167	167	168	169	169	170	170
130	173	175	177	177	178	179	179	180	180
135	183	178	185	185	187	187	187	189	189
140	191	187	184	193	193	194	195	195	195
145	198	190	183	194	200	200	199	199	200
150	197	193	188	186	197	204	204	205	206
155	193	192	190	189	186	192	199	202	204
160	189	188	186	185	184	182	182	184	186
165	177	175	174	174	174	174	173	172	173
170	170	170	169	169	170	170	170	171	174
175	187	188	188	188	188	188	189	189	191
180	192	192	192	192	192	192	192	192	192

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	244.41	N.A.	7.50
0-30	524.82	N.A.	16.20
0-40	871.47	N.A.	26.80
0-60	1603.16	N.A.	49.40
0-80	2139.77	N.A.	65.90
0-90	2282.74	N.A.	70.30
10-90	2220.07	N.A.	68.40
20-40	627.06	N.A.	19.30
20-50	1000.2	N.A.	30.80
40-70	1039.06	N.A.	32.00
60-80	536.61	N.A.	16.50
70-80	229.24	N.A.	7.10
80-90	142.97	N.A.	4.40
90-110	248.79	N.A.	7.70
90-120	393.95	N.A.	12.10
90-130	542.83	N.A.	16.70
90-150	806.74	N.A.	24.90
90-180	963.56	N.A.	29.70
110-180	714.77	N.A.	22.00
0-180	3246.3	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	62.68
10-20	181.73
20-30	280.41
30-40	346.65
40-50	373.14
50-60	358.55
60-70	307.37
70-80	229.24
80-90	142.97
90-100	115.56
100-110	133.23
110-120	145.16
120-130	148.88
130-140	141.97
140-150	121.94
150-160	89.30
160-170	50.21
170-180	17.32

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L022512701.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70
1	100	95	90	86	95	90	86	82	80	77	74	71	69	67	63	61	59	55
2	91	82	75	69	85	78	71	66	69	64	60	62	58	54	54	51	49	45
3	82	71	63	56	77	68	60	54	60	54	49	54	49	45	48	44	40	37
4	75	63	54	47	70	60	52	45	53	47	42	48	42	38	42	38	34	31
5	69	56	47	40	65	53	45	39	48	41	36	42	37	33	38	33	30	27
6	63	50	41	35	59	48	39	33	43	36	31	38	33	28	34	29	26	23
7	58	45	36	30	55	43	35	29	39	32	27	35	29	25	31	26	23	20
8	54	41	33	27	51	39	31	26	35	29	24	32	26	22	28	24	20	18
9	51	37	29	24	48	36	28	23	32	26	21	29	24	20	26	22	18	16
10	47	34	27	21	45	33	26	21	30	24	19	27	22	18	24	20	16	15

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L022512701.IES

UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

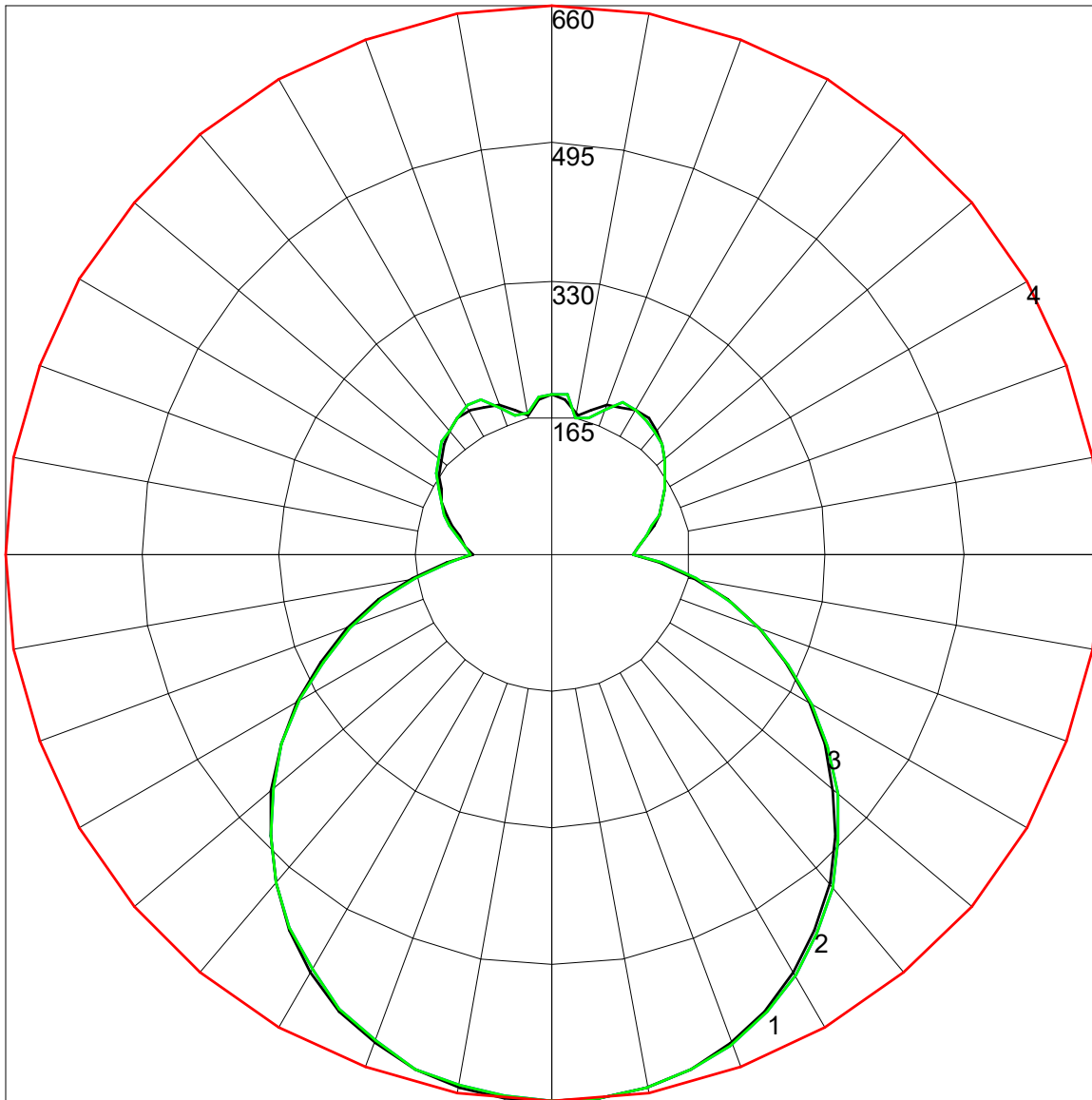
X=2H	Y=2H	10.7	11.9	11.5	12.7	13.6	10.7	11.8	11.4	12.6	13.6
	3H	12.8	13.9	13.6	14.7	15.6	12.8	13.8	13.5	14.6	15.6
	4H	13.7	14.7	14.5	15.5	16.5	13.6	14.6	14.4	15.4	16.4
	6H	14.5	15.4	15.3	16.2	17.3	14.4	15.3	15.2	16.2	17.2
	8H	14.9	15.7	15.7	16.6	17.6	14.8	15.6	15.6	16.5	17.5
	12H	15.2	16.0	16.0	16.8	17.9	15.1	15.9	15.9	16.7	17.8

UGR Viewed Endwise

4H	2H	11.4	12.3	12.1	13.1	14.1	11.3	12.3	12.1	13.1	14.1
	3H	13.6	14.5	14.4	15.3	16.3	13.6	14.4	14.4	15.2	16.3
	4H	14.7	15.5	15.5	16.3	17.3	14.6	15.4	15.4	16.2	17.2
	6H	15.6	16.3	16.5	17.2	18.2	15.5	16.2	16.4	17.1	18.1
	8H	16.1	16.7	16.9	17.5	18.6	16.0	16.6	16.8	17.4	18.5
	12H	16.4	17.0	17.3	17.9	19.0	16.3	16.9	17.2	17.8	18.8
8H	4H	15.0	15.7	15.9	16.5	17.6	15.0	15.6	15.8	16.4	17.5
	6H	16.2	16.7	17.0	17.6	18.6	16.1	16.6	16.9	17.5	18.5
	8H	16.7	17.2	17.6	18.1	19.1	16.6	17.1	17.5	18.0	19.0
	12H	17.2	17.6	18.1	18.5	19.6	17.1	17.5	18.0	18.4	19.5
12H	4H	15.1	15.7	15.9	16.5	17.6	15.0	15.6	15.8	16.4	17.5
	6H	16.2	16.7	17.1	17.6	18.7	16.2	16.6	17.0	17.5	18.6
	8H	16.9	17.3	17.7	18.2	19.3	16.8	17.2	17.6	18.1	19.2

Maximum UGR = 19.6

POLAR GRAPH



Maximum Candela = 660 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Vertical Plane Through Horizontal Angles (0 - 180)
4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)