

**REPORT NUMBER:** RAB04734

**PAGE:** 1 OF 10

**ISSUE DATE:** 12/20/18

**DATE SAMPLE TESTED:** 12/20/18

**PREPARED FOR:** RAB LIGHTING INC. RC LIGHTING

**CATALOG NUMBER:** W34-90L-830-480

**LUMINAIRE:** WALLPACK WITH ALUMINUM PRECISION DIE CAST CONSTRUCTION, CLEAR GLASS LENS AND SPECULAR ALUMINUM REFLECTOR.

**LAMPS:** ONE HUNDRED AND EIGHTY WHITE LIGHT EMITTING DIODES (LEDs)

**ABSOLUTE:** NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

**WATT:** TOTAL INPUT WATTS = 85.6 W AT 480.0 VAC.

**LED DRIVER:** LED DRIVER: XH095C275V054BSF1

**PROCEDURE:** TEST PROCEDURE: IESNA LM-79-08

**NOTE:** LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE  
AMBIENT: 24.8

**NVLAP LAB CODE:** ACCREDITED LABORATORY CODE 201058-0



THIS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

Checked X.CAO

Approved D.WANG-MUNSON

**CATALOG NUMBER:** W34-90L-830-480

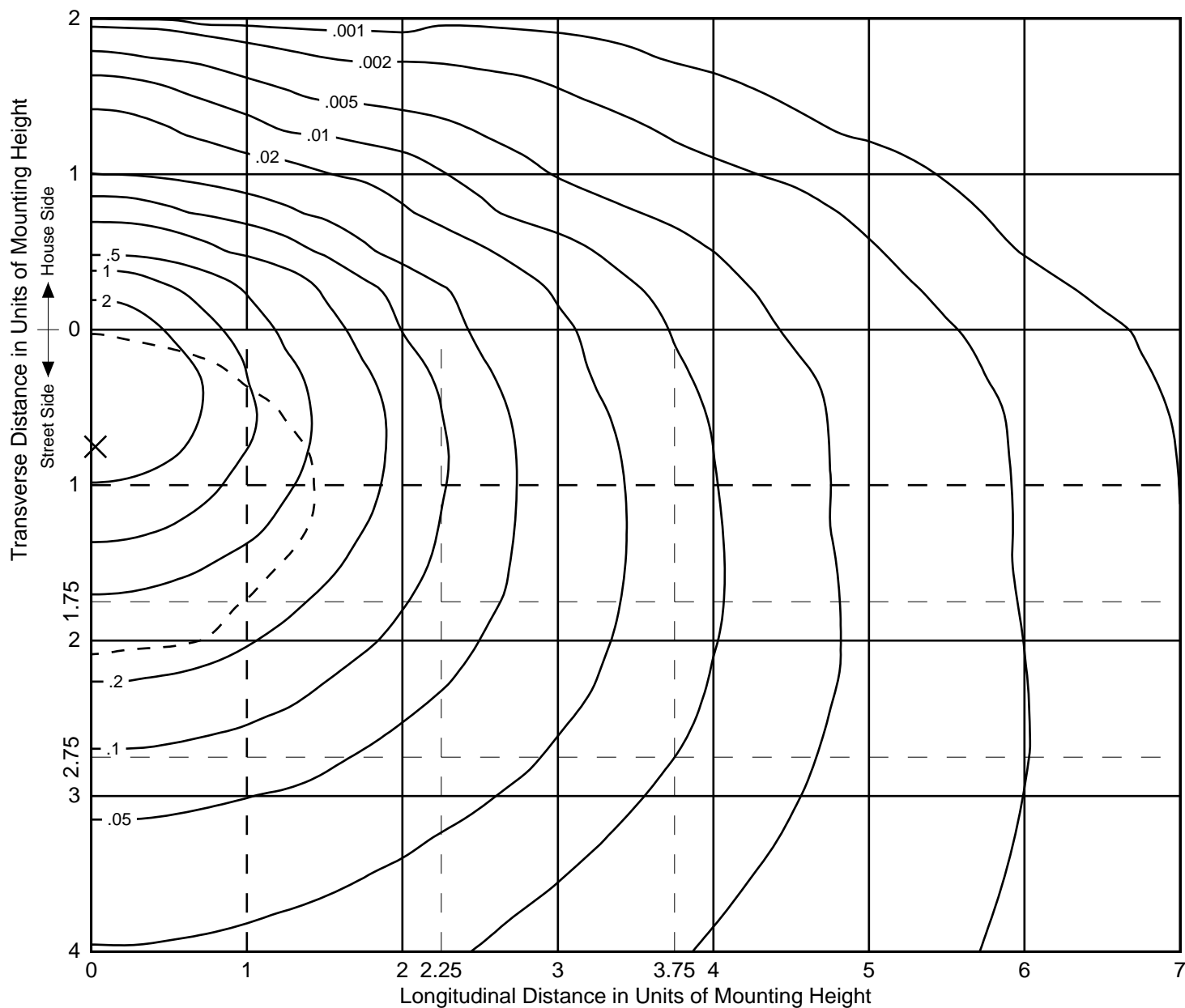
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION  
Values based on 28-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Semicutoff

— — — — - 1/2 Maximum Candela trace

✕ Maximum Candela point



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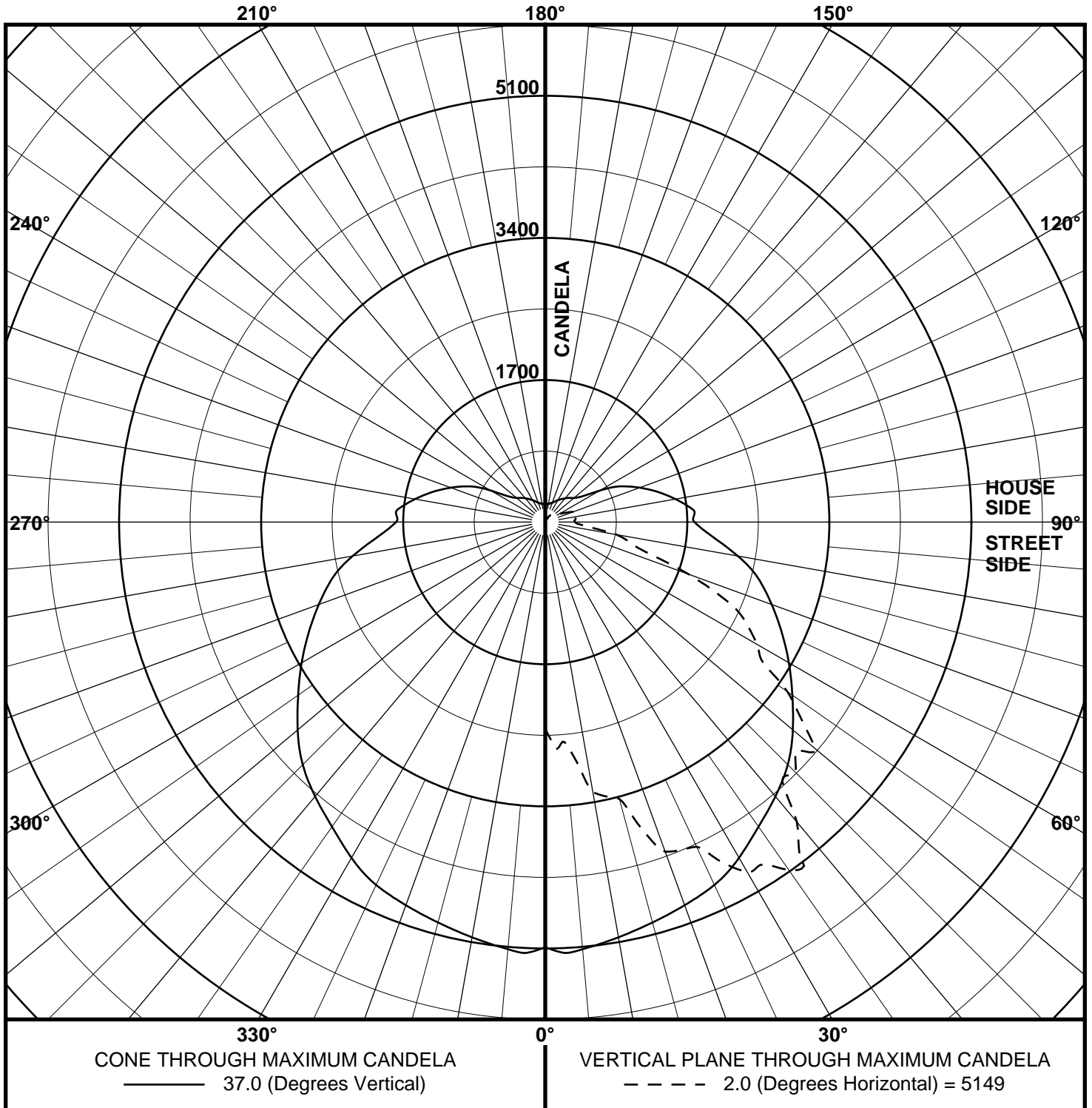
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## MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



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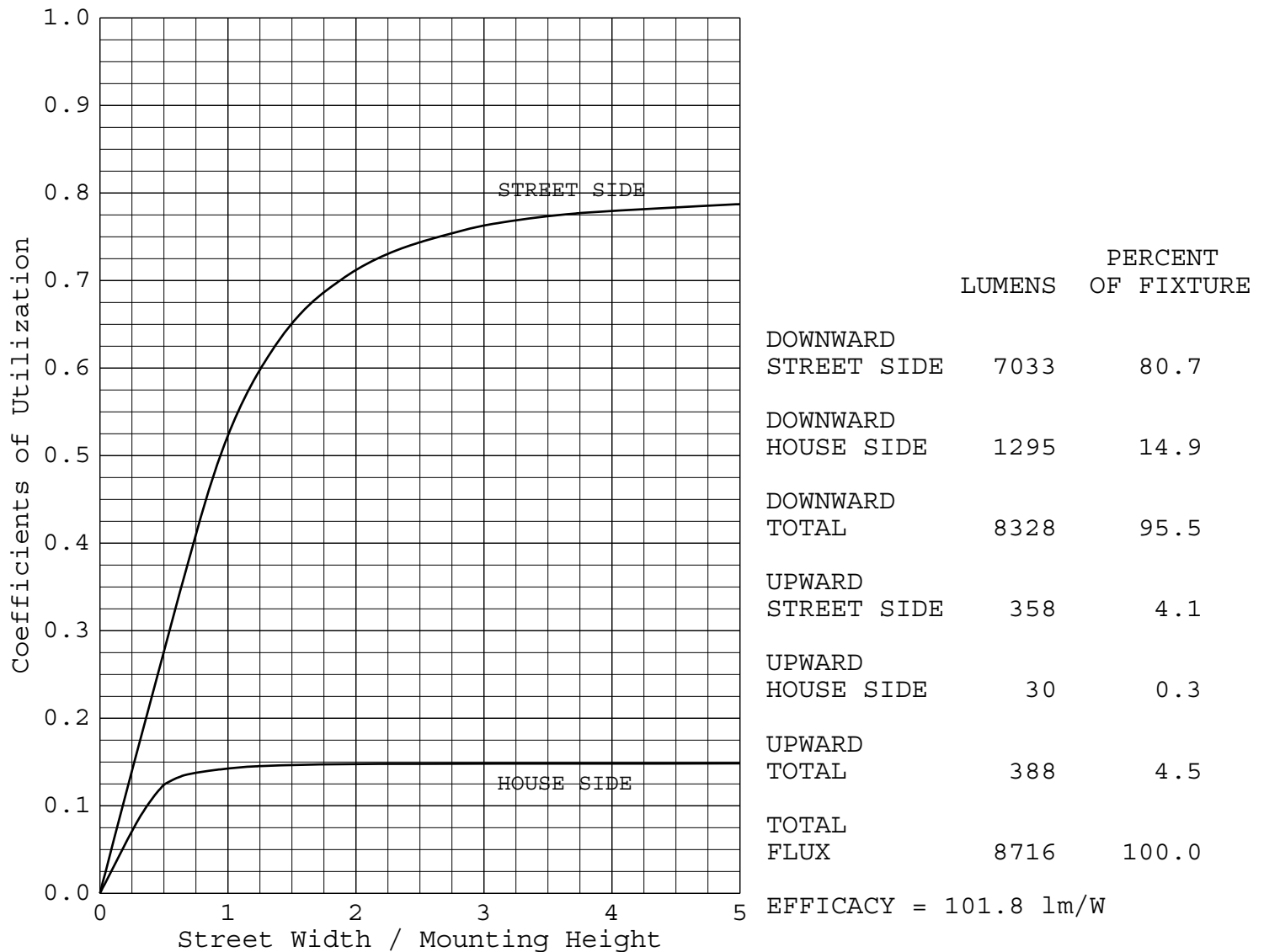
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## COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.

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BUG Rating			<div>B2</div> <div>U3</div> <div>G2</div>		
Zonal Summary			Zone Ratings		
			B	U	G
Forward					
FL	(0° – 30°)	7033			
FM	(30° – 60°)	1409.3			
FH	(60° – 80°)	3838.9			
FVH	(80° – 90°)	1566.4			G1
		218.6			G2
Backward					
BL	(0° – 30°)	1295			
BM	(30° – 60°)	608.2	B2		
BH	(60° – 80°)	558.3	B1		
BVH	(80° – 90°)	115.7	B1		G1
		12.7			G1
Upward					
UL	(90° – 100°)	388			
UH	(100° – 180°)	120.6		U3	
		267.5		U3	
Trapped Light					
Total Flux					
		0			
		8716			
		100.0			

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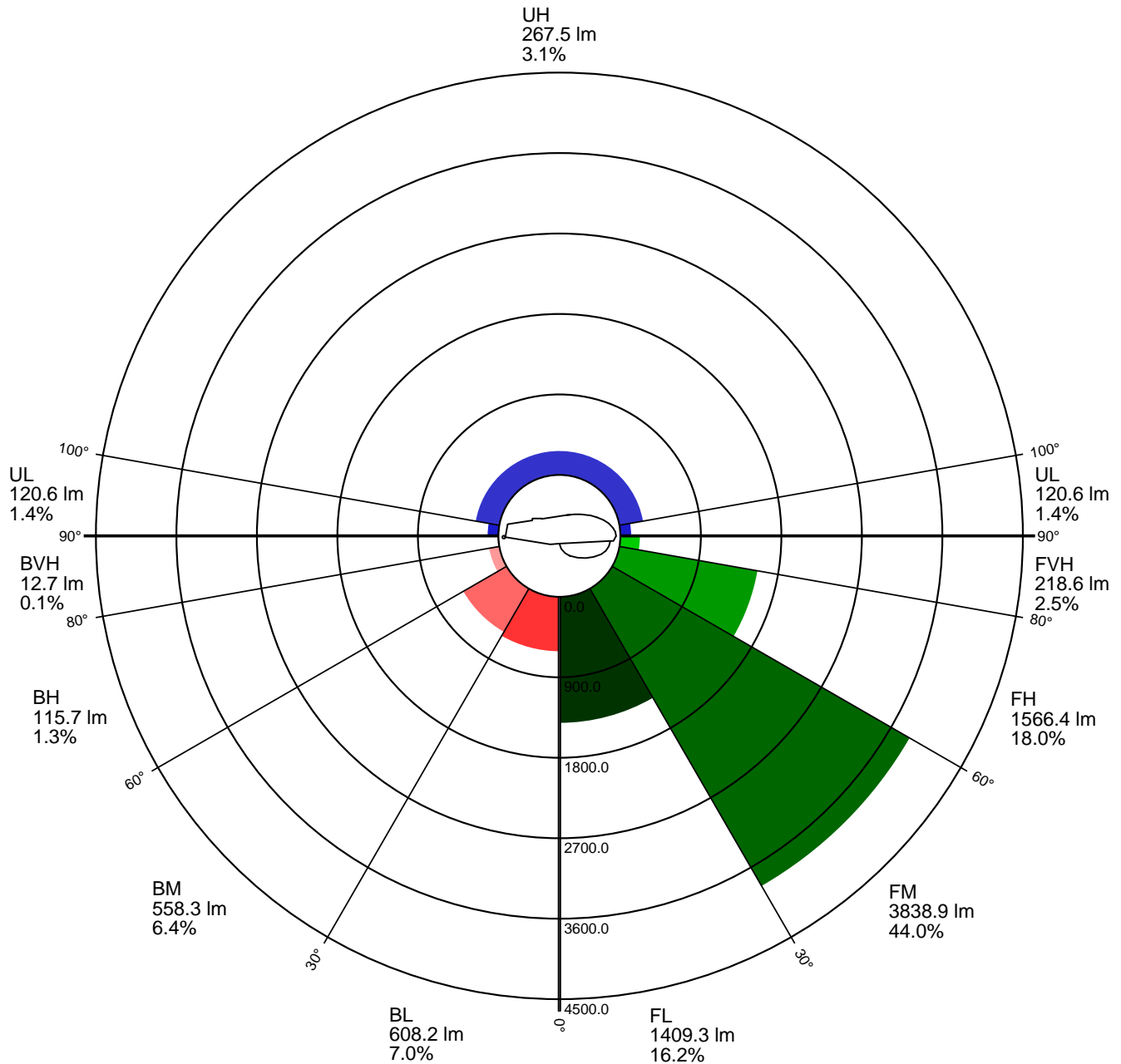
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## Zonal Lumen Summary

(Linear scale)



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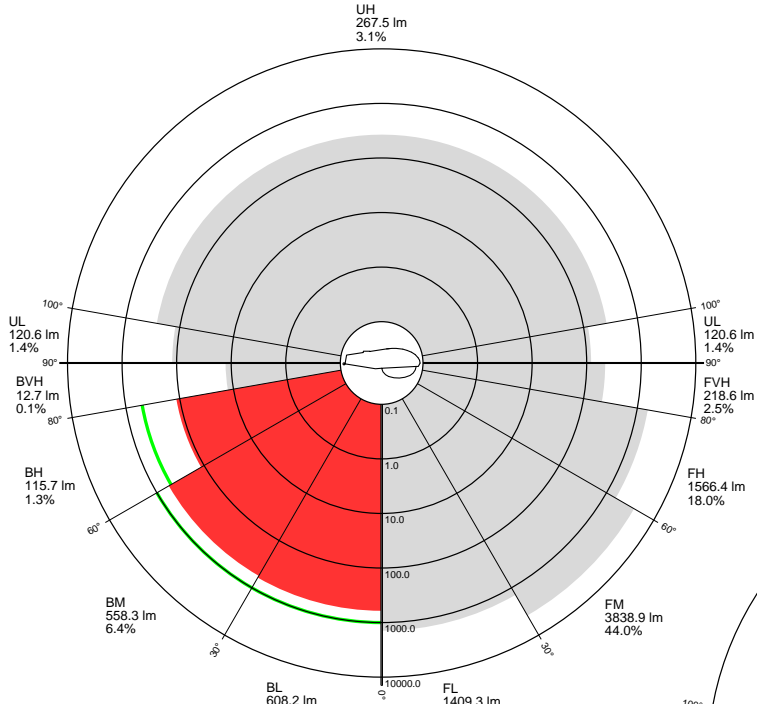
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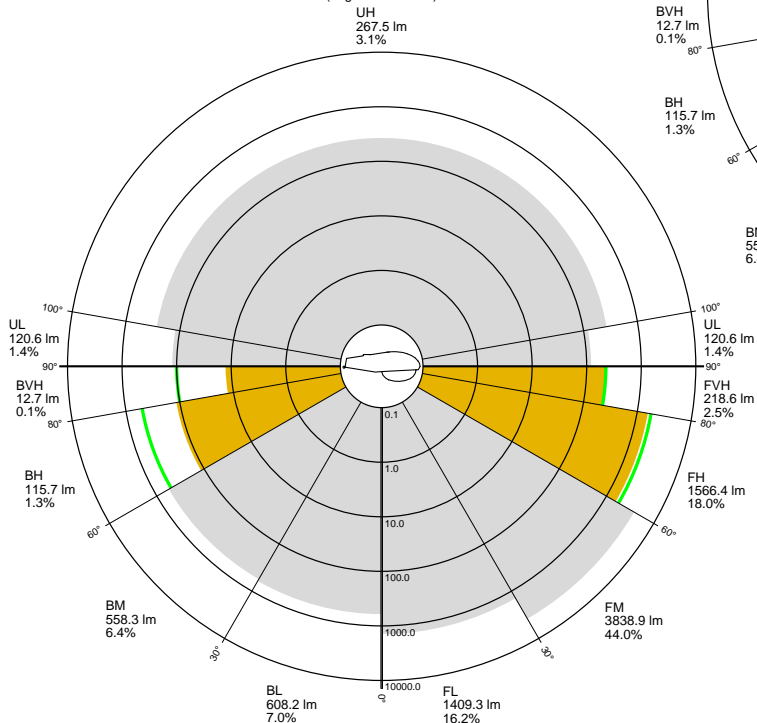
### Backlight Rating Details

(Logarithmic scale)



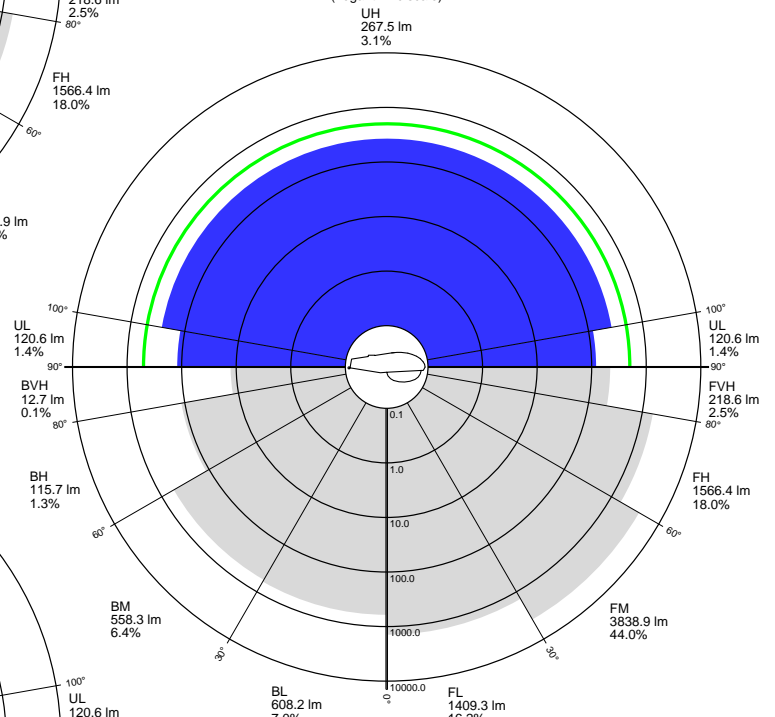
### Glare Rating Details

(Logarithmic scale)



### Uplight Rating Details

(Logarithmic scale)



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### CANDELA TABULATION

	STREET SIDE										
	0.0	2.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
	175.0	2.	2.	2.	2.	3.	4.	5.	6.	7.	8.
	165.0	15.	15.	15.	14.	13.	12.	10.	8.	7.	8.
	155.0	42.	42.	42.	40.	35.	30.	24.	17.	12.	8.
	145.0	92.	92.	92.	87.	77.	62.	46.	34.	21.	13.
	135.0	135.	136.	135.	129.	116.	97.	76.	52.	35.	19.
	125.0	173.	173.	172.	162.	140.	114.	90.	67.	45.	24.
	115.0	262.	263.	261.	237.	200.	152.	105.	72.	54.	39.
	105.0	334.	335.	332.	293.	227.	161.	111.	79.	62.	46.
	95.0	360.	360.	360.	350.	327.	282.	216.	141.	103.	66.
	92.5	350.	351.	351.	345.	331.	293.	248.	182.	129.	80.
	90.0	353.	356.	355.	349.	333.	306.	288.	236.	168.	101.
	87.5	372.	377.	372.	369.	361.	355.	346.	299.	232.	140.
	85.0	450.	461.	464.	461.	456.	438.	445.	404.	312.	199.
V	82.5	592.	612.	616.	606.	632.	608.	592.	512.	411.	289.
E	80.0	835.	862.	836.	837.	818.	744.	688.	649.	566.	409.
R	77.5	976.	1000.	982.	967.	924.	859.	870.	878.	743.	553.
T	75.0	1101.	1115.	1106.	1093.	1100.	1134.	1221.	1157.	941.	719.
I	72.5	1359.	1395.	1370.	1397.	1530.	1530.	1562.	1443.	1155.	888.
C	70.0	1779.	1828.	1804.	1843.	1942.	1869.	1887.	1705.	1369.	1076.
A	67.5	2165.	2218.	2225.	2188.	2255.	2216.	2090.	1885.	1607.	1281.
L	65.0	2543.	2559.	2557.	2600.	2527.	2366.	2290.	2151.	1809.	1464.
	62.5	2753.	2751.	2679.	2653.	2660.	2633.	2533.	2432.	2028.	1606.
A	60.0	2913.	2925.	2925.	2896.	2886.	2878.	2844.	2572.	2256.	1794.
N	57.5	3037.	3065.	3065.	3044.	3248.	3253.	3112.	2770.	2433.	1922.
G	55.0	3539.	3538.	3549.	3584.	3637.	3558.	3179.	3028.	2551.	2041.
L	52.5	3852.	3857.	3877.	3958.	3868.	3599.	3343.	3200.	2682.	2134.
E	50.0	4214.	4216.	4184.	4049.	3846.	3708.	3575.	3293.	2788.	2212.
	47.5	4074.	4066.	4059.	4010.	3995.	3889.	3782.	3411.	2862.	2261.
	45.0	4222.	4230.	4229.	4135.	4191.	4163.	3850.	3558.	2986.	2350.
	42.5	4186.	4199.	4201.	4362.	4522.	4384.	3989.	3616.	3152.	2431.
	40.0	4641.	4682.	4678.	4740.	4746.	4421.	4066.	3597.	3195.	2516.
	37.5	4913.	4996.	4979.	4998.	4828.	4447.	4115.	3590.	3156.	2633.
	37.0<<	5088.	5149.	5129.	4959.	4790.	4450.	4105.	3610.	3123.	2647.
	35.0	5094.	5080.	5090.	4882.	4707.	4448.	3992.	3622.	3095.	2761.
	30.0	4796.	4835.	4859.	4668.	4515.	4084.	3892.	3634.	3023.	2842.
	25.0	4291.	4286.	4291.	4181.	4134.	4137.	3784.	3243.	3180.	2652.
	20.0	4209.	4196.	4209.	4181.	4008.	3644.	3283.	3263.	3178.	2636.
	15.0	3417.	3430.	3455.	3441.	3399.	3338.	3357.	3356.	2999.	2513.
	10.0	3271.	3277.	3287.	3274.	3489.	3272.	2880.	3059.	2506.	2631.
	5.0	2750.	2642.	2712.	2734.	2568.	2495.	2581.	2669.	2696.	2371.
	0.0	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472.

PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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### CANDELA TABULATION

	LATERAL ANGLE										
	HOUSE SIDE	90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0 180.0
	180.0	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
	175.0	8.	8.	8.	8.	7.	6.	6.	5.	5.	4. 4.
	165.0	8.	9.	9.	8.	8.	7.	7.	7.	7.	7.
	155.0	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
	145.0	9.	9.	9.	9.	9.	9.	9.	9.	10.	10. 10.
	135.0	12.	11.	10.	9.	9.	9.	9.	9.	9.	9.
	125.0	17.	13.	10.	9.	8.	8.	7.	7.	7.	7. 8.
	115.0	28.	21.	12.	9.	8.	7.	6.	6.	6.	6. 6.
	105.0	34.	28.	16.	10.	8.	7.	7.	7.	6.	6. 6.
	95.0	28.	26.	20.	13.	9.	7.	6.	5.	5.	5. 5.
	92.5	30.	27.	22.	15.	9.	7.	6.	5.	5.	5. 5.
	90.0	44.	31.	27.	16.	10.	7.	5.	5.	4.	5. 5.
	87.5	86.	43.	34.	19.	10.	7.	5.	4.	4.	4. 4.
	85.0	149.	64.	47.	23.	12.	7.	5.	4.	4.	4. 4.
V	82.5	214.	105.	64.	30.	14.	7.	5.	4.	3.	4. 3.
E	80.0	278.	188.	86.	39.	16.	7.	5.	4.	3.	3. 3.
R	77.5	356.	284.	107.	50.	20.	7.	4.	3.	3.	3. 3.
T	75.0	440.	357.	130.	66.	24.	8.	4.	3.	3.	2. 2.
I	72.5	534.	428.	160.	89.	36.	9.	4.	3.	2.	2. 2.
C	70.0	609.	507.	197.	118.	53.	13.	4.	3.	2.	2. 2.
A	67.5	690.	641.	233.	149.	69.	29.	6.	3.	2.	1. 1.
L	65.0	799.	748.	277.	183.	88.	43.	24.	6.	2.	1. 0.
	62.5	896.	843.	358.	217.	111.	58.	40.	30.	22.	12. 14.
A	60.0	1018.	955.	471.	253.	137.	72.	55.	47.	41.	40. 40.
N	57.5	1128.	1066.	573.	286.	165.	89.	64.	62.	61.	61. 61.
G	55.0	1211.	1127.	681.	327.	202.	110.	80.	73.	79.	76. 78.
L	52.5	1278.	1232.	795.	360.	238.	132.	96.	86.	88.	92. 92.
E	50.0	1425.	1337.	917.	411.	276.	162.	112.	96.	98.	103. 103.
	47.5	1511.	1396.	1020.	495.	313.	205.	134.	110.	103.	103. 103.
	45.0	1599.	1542.	1080.	570.	351.	248.	170.	125.	117.	113. 112.
	42.5	1643.	1585.	1185.	708.	395.	293.	214.	158.	133.	126. 124.
	40.0	1673.	1646.	1281.	841.	456.	346.	264.	207.	171.	152. 149.
	37.5	1775.	1767.	1377.	1009.	517.	399.	321.	259.	220.	205. 199.
	37.0<<	1785.	1769.	1393.	1011.	533.	409.	335.	271.	231.	215. 209.
	35.0	1861.	1848.	1414.	1094.	651.	455.	386.	314.	276.	259. 251.
	30.0	2006.	1917.	1500.	1300.	1064.	609.	483.	434.	396.	380. 361.
	25.0	2095.	2017.	1751.	1590.	1328.	1095.	817.	548.	506.	489. 477.
	20.0	2142.	2134.	1841.	1706.	1661.	1436.	1234.	1095.	1003.	853. 846.
	15.0	2275.	2352.	2417.	2065.	1709.	1492.	1556.	1455.	1525.	1356. 1339.
	10.0	2409.	2594.	2212.	2385.	1980.	1965.	1651.	1833.	1729.	1566. 1577.
	5.0	2447.	2571.	2527.	2296.	2268.	2487.	2531.	2439.	2324.	2206. 2223.
	0.0	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472.	2472. 2472.

CONE OF MAXIMUM CANDELA

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### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	59
5- 10	177
10- 15	293
15- 20	398
20- 25	502
25- 30	588
30- 35	679
35- 40	751
40- 45	767
45- 50	763
50- 55	752
55- 60	685
60- 65	597
65- 70	496
70- 75	357
75- 80	232
80- 85	146
85- 90	86
90- 95	65
95-100	56
100-105	47
105-110	44
110-115	39
115-120	30
120-125	25
125-130	21
130-135	18
135-140	15
140-145	11
145-150	8
150-155	5
155-160	3
160-165	2
165-170	1
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	237
0- 20	927
0- 30	2017
0- 40	3447
0- 50	4978
0- 60	6415
0- 70	7508
0- 80	8097
0- 90	8328
0-100	8449
0-110	8540
0-120	8608
0-130	8654
0-140	8687
0-150	8705
0-160	8713
0-170	8716
0-180	8716

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ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: WALLPACK WITH ALUMINUM PRECISION DIE CAST CONSTRUCTION, CLEAR GLASS LENS AND SPECULAR ALUMINUM REFLECTOR.

LAMP: ONE HUNDRED AND EIGHTY WHITE LIGHT EMITTING DIODES (LEDs)

DRIVER: XH095C275V054BSF1

NOTE: LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

INSTRUMENTS:	GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100	Calibration Due:
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	N/A
	OCEAN OPTICS QE65PRO Spectroradiometer	3/08/19
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	12/11/19

OBJECT OF TEST: Measure the Total Radiant Flux\*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRI<sub>a</sub>,1-14), Chromaticity Coordinates (x,y; u'v'), ANSI C78.377 Duv, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample. Report Off-State Power.

PROCEDURE: The test sample was provided by the customer and had an unknown number of burn hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 480.0 VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology. Off-State Power was reported with no voltage applied to the sample.

\*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

RESULTS: (continued subsequent pages)

Checked X.CAO

Approved D.WANG-MUNSON  
Lighting Engineer

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RESULTS:

<b>SPECTRORADIOMETRIC</b>	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4286
Chromaticity Ordinate y	0.3977
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2479
Chromaticity Ordinate v'	0.5176
Correlated Color Temp CCT (K)	3092
Color Rendering Index (CRIa)	82
Color Rendering Index 1 (Light greyish red)	81
Color Rendering Index 2 (Dark greyish yellow)	90
Color Rendering Index 3 (Strong yellowish green)	96
Color Rendering Index 4 (Moderate yellowish green)	80
Color Rendering Index 5 (Light bluish green)	81
Color Rendering Index 6 (Light blue)	88
Color Rendering Index 7 (Light violet)	83
Color Rendering Index 8 (Light reddish purple)	60
Color Rendering Index 9 (Strong red)	9
Color Rendering Index 10 (Strong yellow)	78
Color Rendering Index 11 (Strong green)	79
Color Rendering Index 12 (Strong blue)	70
Color Rendering Index 13 (Light yellowish pink (skin))	83
Color Rendering Index 14 (Moderate olive green (leaf))	98
ANSI C78.377-2008 Duv	-0.001
Total Radiant Flux (milliWatts)	26817 *
<b>ELECTRICAL FOR SPECTRORADIOMETRIC TEST</b>	
Input Voltage (Volts AC )	480.0
Input Current (Amps AC )	0.181
Input Power (Watts)	85.6
Input Power Factor (%)	98.3
Input Current THD (%)	9.0
Input Voltage THD (%)	0.1
Off-State Power (Watts)	0.0

\*NOTE:

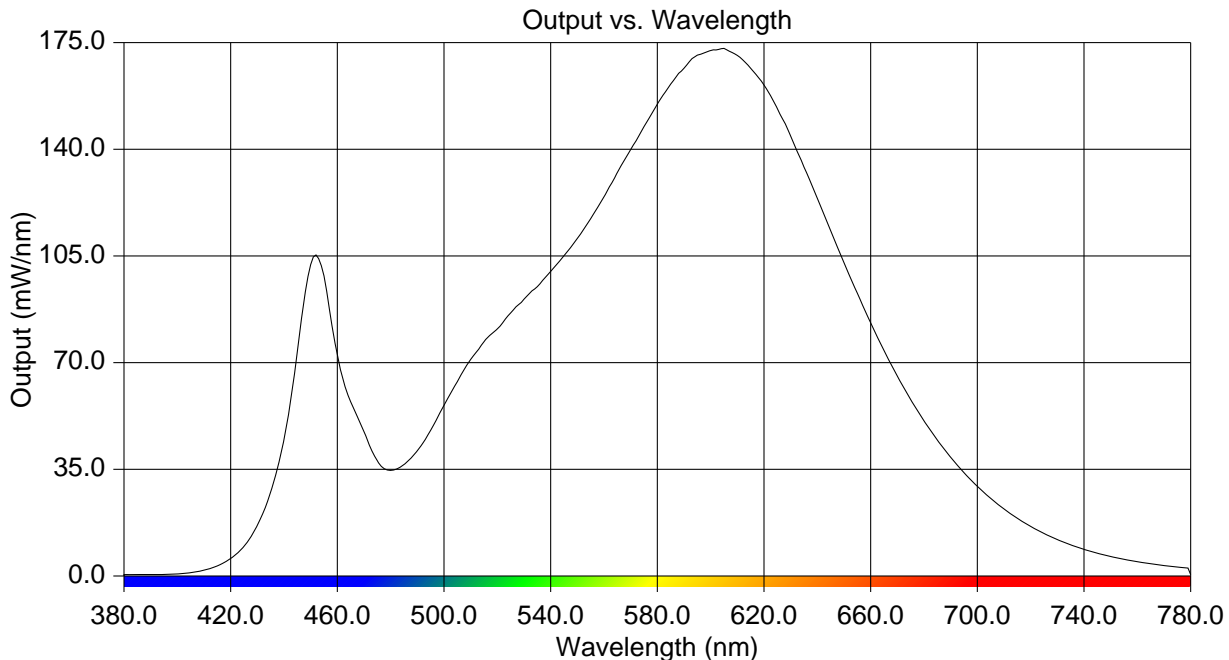
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.435	515	76.867	650	102.693
385	0.442	520	81.001	655	92.802
390	0.463	525	86.320	660	83.034
395	0.513	530	90.829	665	73.947
400	0.703	535	94.940	670	65.584
405	1.066	540	99.825	675	57.940
410	1.901	545	104.974	680	50.915
415	3.309	550	110.713	685	44.530
420	5.741	555	117.237	690	38.935
425	9.715	560	124.423	695	33.899
430	16.662	565	132.472	700	29.427
435	27.559	570	140.026	705	25.519
440	44.948	575	147.455	710	22.024
445	73.499	580	154.789	715	18.943
450	102.169	585	161.396	720	16.228
455	98.475	590	166.603	725	13.938
460	72.541	595	170.905	730	11.914
465	57.159	600	172.447	735	10.209
470	47.413	605	173.119	740	8.722
475	37.826	610	170.814	745	7.495
480	34.621	615	166.593	750	6.428
485	36.540	620	161.084	755	5.474
490	41.073	625	153.418	760	4.680
495	47.812	630	144.331	765	3.992
500	56.113	635	134.173	770	3.413
505	63.762	640	123.774	775	2.939
510	71.047	645	113.356	780	0.440



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## CIE Chromaticity Diagram

