

REPORT NUMBER: RAB04748

PAGE: 1 OF 10

ISSUE DATE: 01/03/19

DATE SAMPLE TESTED: 01/03/19

PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

CATALOG NUMBER: W34-150L-830-480

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

LAMPS: THREE HUNDRED AND FORTY TWO WHITE LIGHT EMITTING DIODES (LEDs)

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

WATT: TOTAL INPUT WATTS = 133.6 W AT 480.0 VAC.

LED DRIVER: LED DRIVER: XH180C180V144BSF1

PROCEDURE: TEST PROCEDURE: IESNA LM-79-08

NOTE: LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE
AMBIENT: 24.0

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

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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

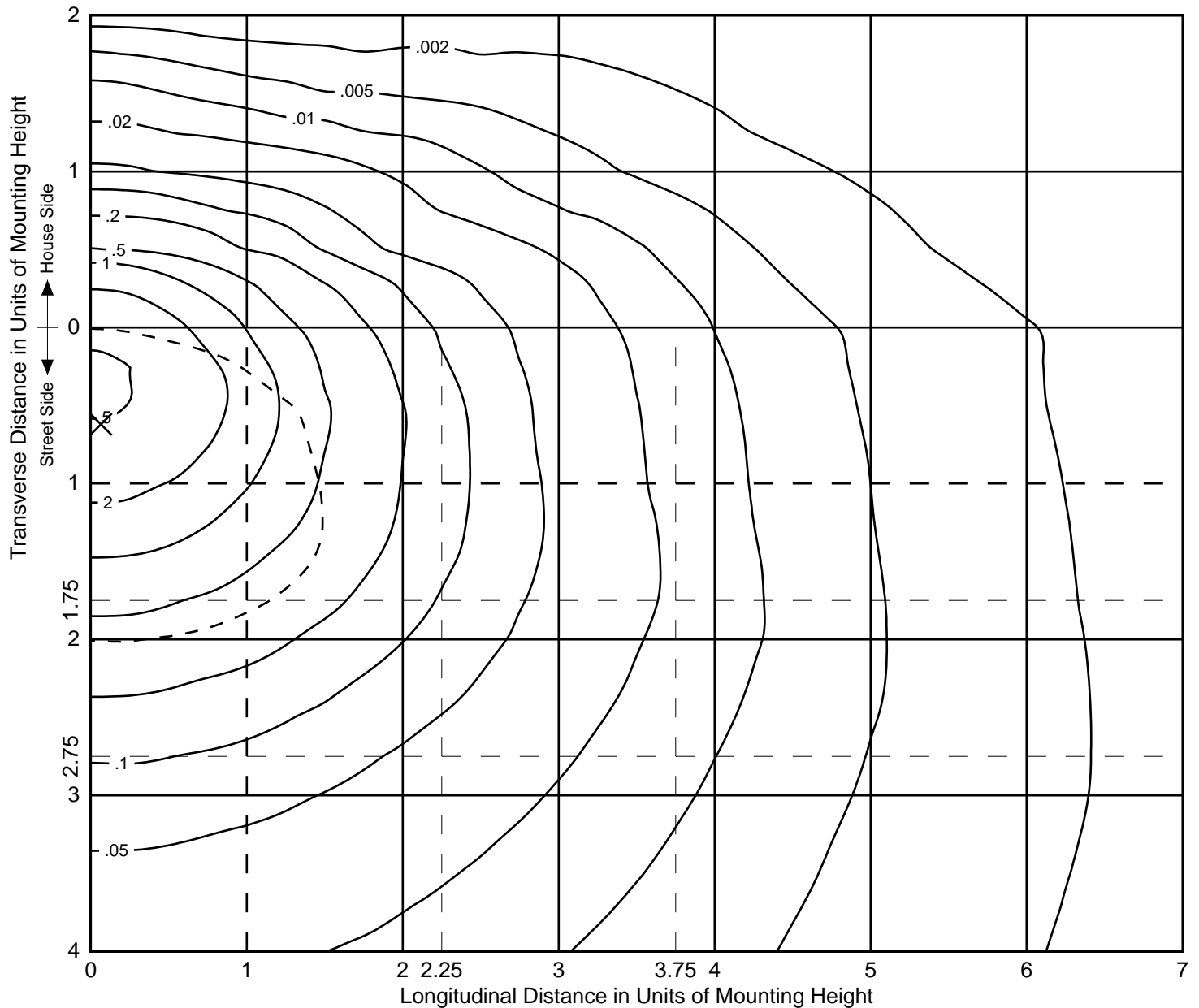
Values based on 32-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Semicutoff

— — — — — 1/2 Maximum Candela trace

× Maximum Candela point



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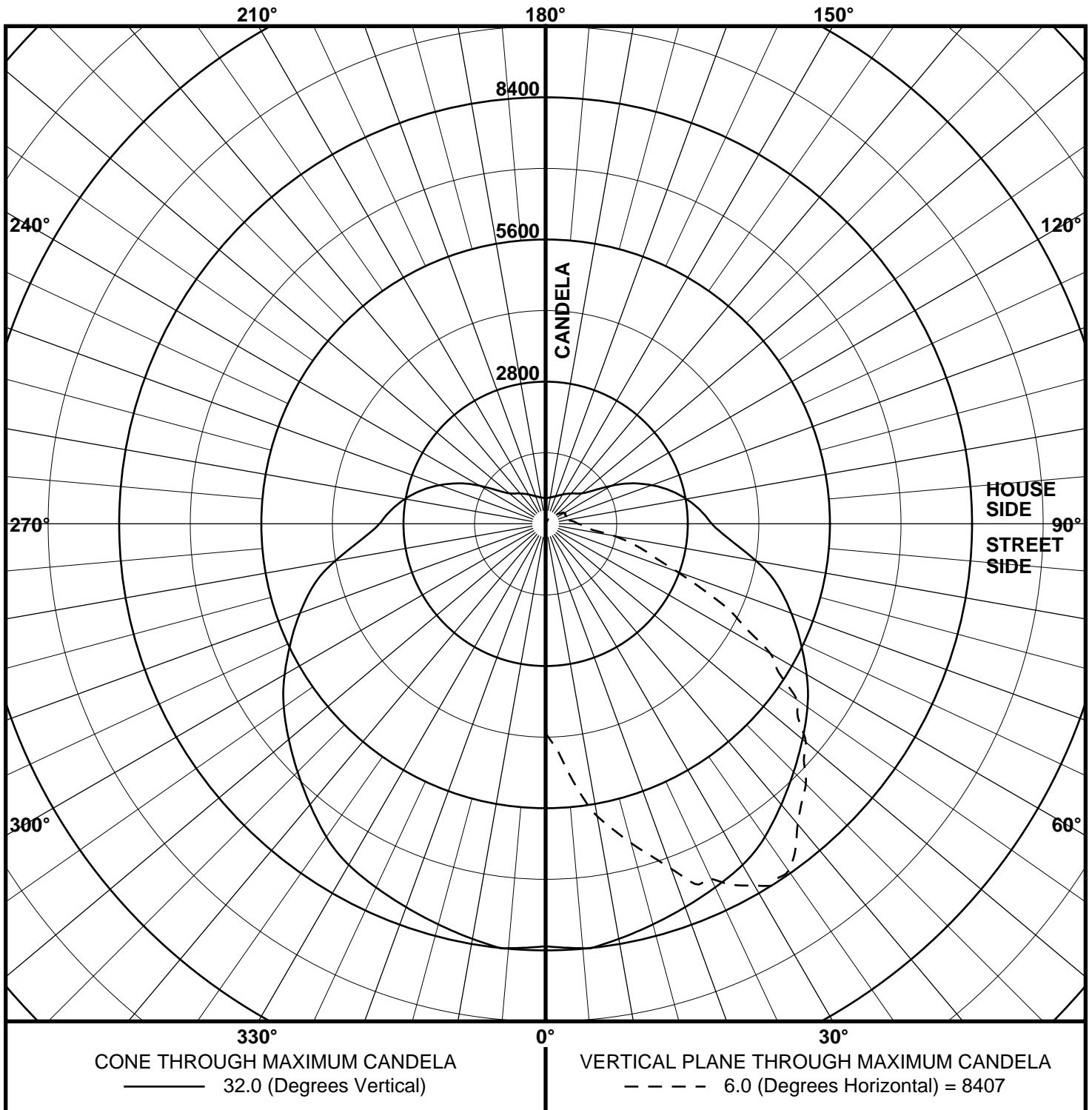
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



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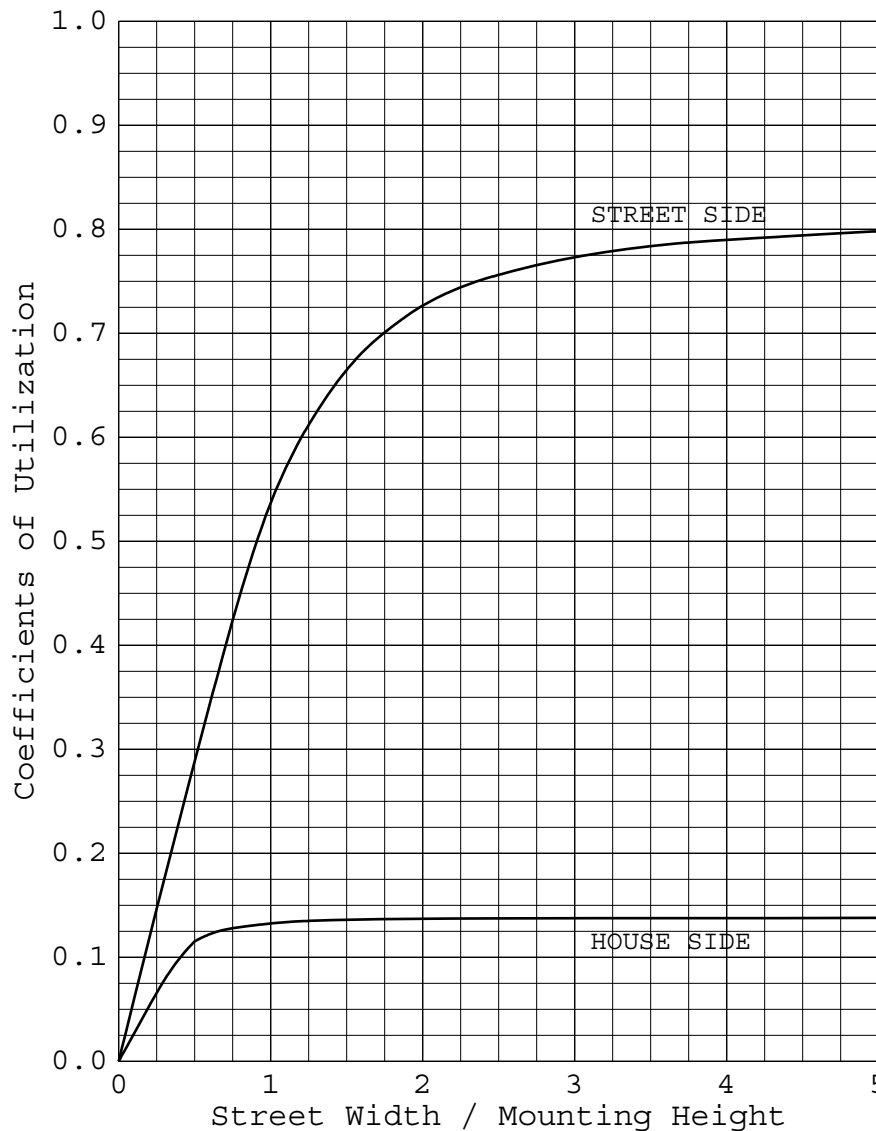
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	11942	81.7
DOWNWARD HOUSE SIDE	2027	13.9
DOWNWARD TOTAL	13969	95.6
UPWARD STREET SIDE	582	4.0
UPWARD HOUSE SIDE	57	0.4
UPWARD TOTAL	639	4.4
TOTAL FLUX	14609	100.0

EFFICACY = 109.3 lm/W

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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CATALOG NUMBER: W34-150L-830-480

BUG Rating			<div>B2</div> <div>U3</div> <div>G3</div>		
Zonal Summary			Zone Ratings		
			B	U	G
Forward					
FL	(0° – 30°)	11942			
FM	(30° – 60°)	2470.3			
FH	(60° – 80°)	6542.6			
FVH	(80° – 90°)	2573.3			G2
		355.7			G3
Backward					
BL	(0° – 30°)	2027			
BM	(30° – 60°)	935.0	B2		
BH	(60° – 80°)	874.8	B1		
BVH	(80° – 90°)	194.0	B1		G1
		23.7			G1
Upward					
UL	(90° – 100°)	639			
UH	(100° – 180°)	178.4		U3	
		461.0		U3	
Trapped Light					
Total Flux					
		0			
		14609			
		100.0			

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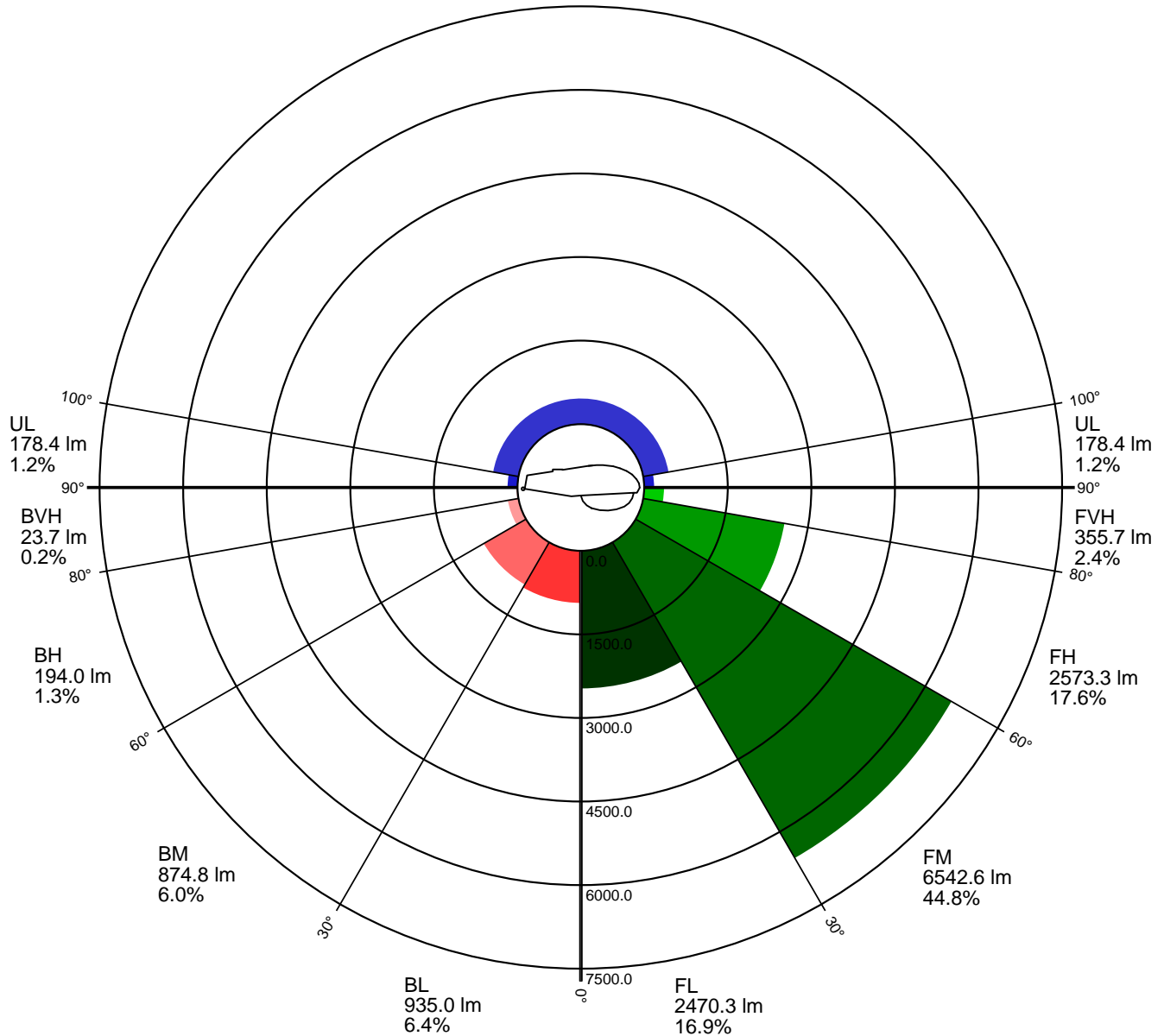
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DATE SAMPLE TESTED: 01/03/19

Zonal Lumen Summary

(Linear scale)

UH
461.0 lm
3.2%



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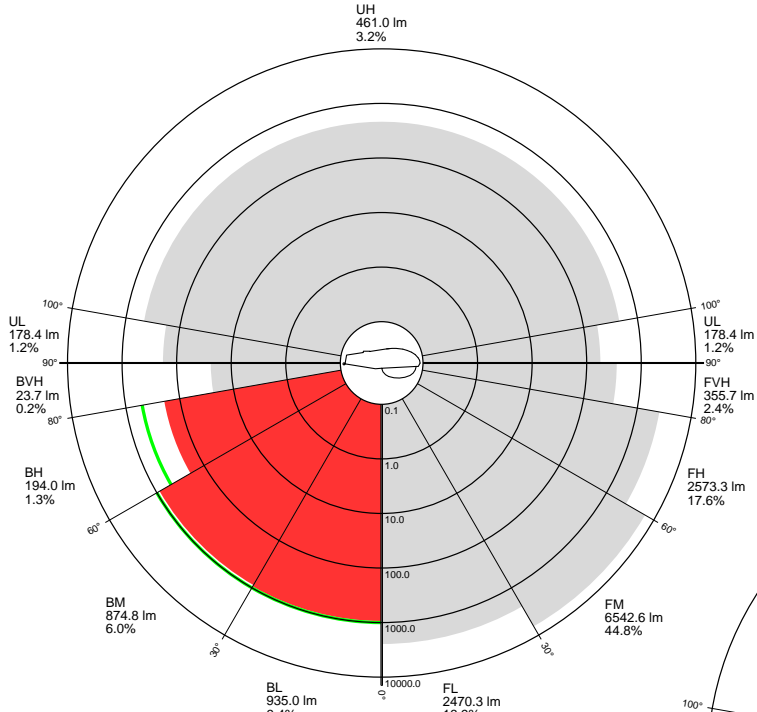
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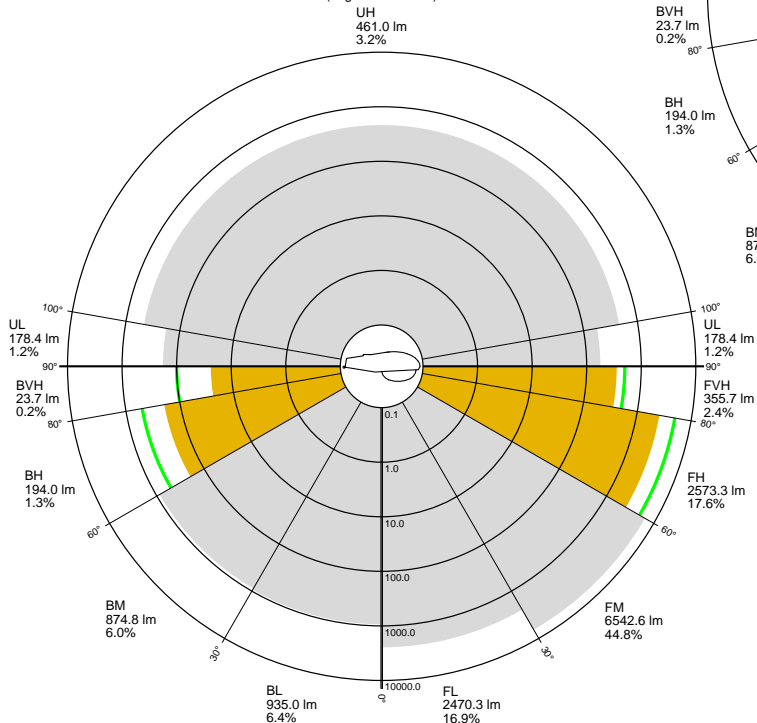
Backlight Rating Details

(Logarithmic scale)



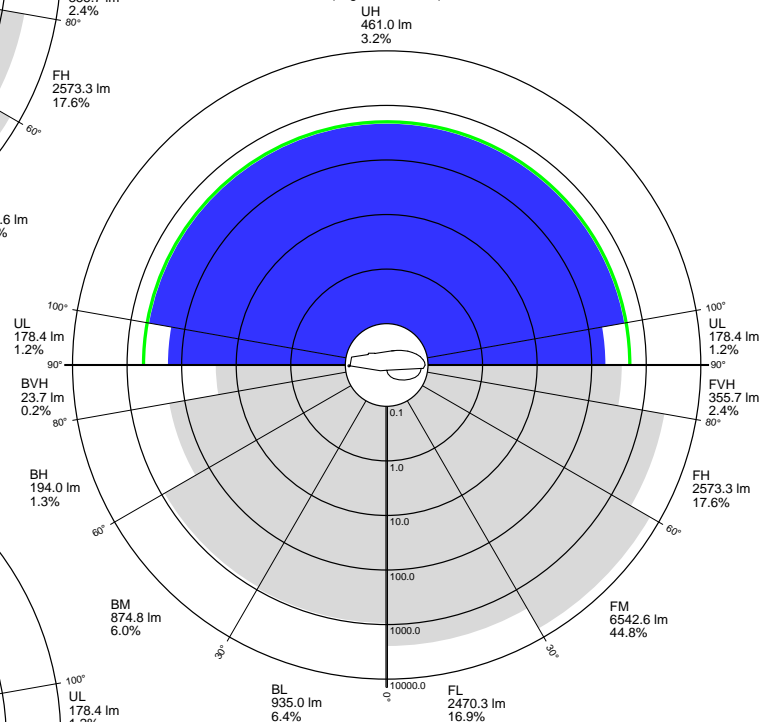
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



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CANDELA TABULATION

	STREET SIDE			LATERAL ANGLE							
	0.0	5.0	6.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
	175.0	3.	3.	3.	4.	6.	8.	9.	11.	12.	14.
	165.0	21.	21.	21.	20.	19.	16.	13.	13.	12.	14.
	155.0	58.	59.	58.	55.	50.	44.	36.	25.	18.	15.
	145.0	144.	145.	144.	136.	121.	102.	78.	51.	31.	20.
	135.0	222.	223.	222.	214.	202.	179.	149.	106.	60.	28.
	125.0	335.	349.	351.	360.	294.	257.	194.	142.	95.	45.
	115.0	428.	428.	427.	402.	350.	330.	240.	152.	107.	69.
	105.0	475.	470.	469.	415.	311.	228.	188.	144.	117.	87.
	95.0	543.	550.	550.	508.	452.	366.	296.	226.	176.	117.
	92.5	589.	593.	592.	554.	505.	424.	356.	265.	205.	134.
	90.0	635.	643.	641.	608.	564.	495.	445.	324.	257.	165.
	87.5	750.	764.	760.	721.	690.	622.	487.	423.	355.	235.
	85.0	808.	811.	812.	796.	753.	651.	645.	585.	506.	347.
V	82.5	921.	944.	940.	933.	956.	932.	937.	820.	688.	499.
E	80.0	1347.	1368.	1366.	1346.	1337.	1269.	1209.	1056.	928.	692.
R	77.5	1711.	1704.	1696.	1674.	1651.	1570.	1463.	1368.	1248.	888.
T	75.0	1988.	2005.	2006.	1989.	1920.	1841.	1866.	1803.	1596.	1101.
I	72.5	2281.	2299.	2300.	2255.	2269.	2270.	2383.	2267.	1930.	1363.
C	70.0	2695.	2761.	2757.	2780.	2846.	2880.	2933.	2753.	2274.	1679.
A	67.5	3259.	3321.	3311.	3340.	3452.	3502.	3548.	3213.	2631.	2079.
L	65.0	3958.	3957.	3965.	3953.	4034.	4106.	4024.	3612.	2938.	2463.
	62.5	4384.	4418.	4436.	4524.	4627.	4601.	4477.	4005.	3257.	2812.
A	60.0	5009.	5088.	5114.	5085.	5067.	5050.	4927.	4318.	3639.	3091.
N	57.5	5347.	5405.	5435.	5501.	5556.	5521.	5272.	4587.	4097.	3298.
G	55.0	6012.	6011.	6037.	5941.	5919.	5850.	5500.	4914.	4488.	3486.
L	52.5	6171.	6232.	6265.	6297.	6267.	6099.	5773.	5267.	4787.	3633.
E	50.0	6631.	6655.	6692.	6609.	6548.	6418.	6086.	5667.	5022.	3812.
	47.5	6831.	6888.	6901.	6891.	6898.	6669.	6378.	5896.	5188.	4012.
	45.0	7116.	7205.	7249.	7247.	7160.	6914.	6673.	6094.	5280.	4238.
	42.5	7397.	7455.	7462.	7413.	7412.	7205.	6871.	6236.	5319.	4346.
	40.0	7687.	7740.	7724.	7729.	7716.	7471.	6988.	6323.	5401.	4470.
	37.5	8027.	8084.	8083.	7952.	7894.	7525.	7049.	6314.	5504.	4557.
	35.0	8273.	8329.	8339.	8193.	7920.	7537.	7076.	6295.	5524.	4623.
	32.0<<	8321.	8390.	8407.	8168.	7902.	7529.	6909.	6297.	5545.	4742.
	30.0	8154.	8210.	8231.	8042.	7770.	7289.	6886.	6340.	5448.	4694.
	25.0	7665.	7695.	7714.	7605.	7467.	7082.	6730.	6132.	5374.	4711.
	20.0	7229.	7208.	7229.	7167.	6972.	6624.	6133.	5713.	5180.	4570.
	15.0	6528.	6495.	6511.	6392.	6116.	6094.	5722.	5398.	5027.	4507.
	10.0	5801.	5791.	5847.	5744.	5562.	5387.	5328.	4981.	4706.	4382.
	5.0	4858.	4842.	4864.	4847.	4754.	4731.	4642.	4516.	4320.	4179.
	0.0	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.

||
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	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
	175.0	14.	14.	14.	13.	13.	11.	10.	9.	9.	9.
	165.0	15.	15.	15.	15.	14.	14.	14.	14.	14.	14.
	155.0	16.	16.	16.	16.	16.	16.	17.	17.	17.	18.
	145.0	18.	17.	17.	16.	16.	17.	18.	18.	18.	19.
	135.0	23.	20.	18.	17.	16.	16.	16.	16.	16.	17.
	125.0	37.	28.	20.	17.	15.	14.	14.	14.	14.	14.
	115.0	55.	42.	25.	18.	15.	13.	12.	11.	11.	12.
	105.0	70.	57.	31.	20.	15.	13.	12.	12.	12.	13.
	95.0	46.	41.	36.	25.	17.	13.	11.	10.	10.	12.
	92.5	45.	39.	38.	27.	17.	13.	11.	10.	10.	12.
	90.0	64.	46.	45.	30.	18.	13.	10.	9.	9.	11.
	87.5	134.	68.	62.	36.	20.	13.	10.	9.	9.	11.
	85.0	266.	118.	87.	47.	23.	13.	10.	9.	9.	11.
V	82.5	386.	215.	119.	59.	26.	14.	10.	8.	8.	10.
E	80.0	507.	326.	156.	74.	30.	14.	9.	7.	7.	8.
R	77.5	632.	442.	199.	97.	37.	14.	9.	7.	6.	7.
T	75.0	758.	613.	259.	129.	45.	15.	9.	6.	5.	6.
I	72.5	969.	784.	309.	165.	61.	17.	9.	6.	5.	5.
C	70.0	1151.	926.	342.	206.	86.	23.	9.	6.	4.	4.
A	67.5	1287.	1050.	376.	251.	113.	45.	11.	5.	4.	3.
L	65.0	1435.	1208.	419.	302.	144.	66.	33.	7.	3.	3.
	62.5	1614.	1360.	499.	361.	181.	88.	52.	35.	20.	10.
A	60.0	1793.	1550.	605.	417.	226.	113.	71.	54.	53.	49.
N	57.5	1997.	1727.	738.	469.	273.	143.	91.	69.	68.	66.
G	55.0	2177.	1874.	891.	520.	327.	178.	117.	85.	80.	81.
L	52.5	2341.	2038.	1115.	586.	388.	216.	144.	110.	95.	87.
E	50.0	2527.	2187.	1273.	656.	445.	264.	176.	138.	125.	108.
	47.5	2648.	2328.	1527.	745.	509.	322.	211.	167.	149.	139.
	45.0	2803.	2496.	1746.	839.	575.	391.	257.	195.	176.	164.
	42.5	2909.	2649.	1906.	961.	640.	463.	324.	231.	202.	187.
	40.0	3027.	2784.	2120.	1129.	716.	551.	407.	295.	245.	220.
	37.5	3093.	2864.	2226.	1336.	812.	638.	493.	382.	316.	284.
	35.0	3189.	2946.	2419.	1605.	929.	729.	602.	486.	411.	365.
	32.0<<	3273.	3062.	2539.	1884.	1136.	843.	720.	616.	548.	513.
	30.0	3333.	3119.	2589.	2019.	1356.	912.	790.	697.	639.	601.
	25.0	3534.	3326.	2757.	2450.	1916.	1364.	1022.	884.	841.	801.
	20.0	3694.	3482.	3033.	2687.	2447.	2077.	1799.	1379.	1236.	1137.
	15.0	3900.	3680.	3312.	2960.	2728.	2626.	2434.	2221.	2142.	2005.
	10.0	4049.	3871.	3725.	3341.	3140.	2902.	2825.	2781.	2802.	2729.
	5.0	4119.	4031.	3863.	3796.	3767.	3631.	3499.	3364.	3336.	3281.
	0.0	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.	4119.

CONE OF MAXIMUM CANDELA

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	98
5- 10	293
10- 15	489
15- 20	674
20- 25	846
25- 30	1005
30- 35	1154
35- 40	1254
40- 45	1299
45- 50	1300
50- 55	1252
55- 60	1159
60- 65	1004
65- 70	798
70- 75	573
75- 80	392
80- 85	236
85- 90	143
90- 95	101
95-100	78
100-105	65
105-110	66
110-115	64
115-120	62
120-125	54
125-130	43
130-135	33
135-140	25
140-145	18
145-150	12
150-155	8
155-160	5
160-165	3
165-170	2
170-175	1
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	391
0- 20	1554
0- 30	3405
0- 40	5813
0- 50	8411
0- 60	10823
0- 70	12625
0- 80	13590
0- 90	13969
0-100	14148
0-110	14278
0-120	14405
0-130	14502
0-140	14560
0-150	14591
0-160	14603
0-170	14608
0-180	14609

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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: THREE HUNDRED AND FORTY TWO WHITE LIGHT EMITTING DIODES (LEDs)

DRIVER: XH180C180V144BSF1

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 (CRIa,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:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4272
Chromaticity Ordinate y	0.3963
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2477
Chromaticity Ordinate v'	0.5168
Correlated Color Temp CCT (K)	3105
Color Rendering Index (CRIa)	82
Color Rendering Index 1 (Light greyish red)	81
Color Rendering Index 2 (Dark greyish yellow)	91
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)	78
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	-0.002
Total Radiant Flux (milliWatts)	45038 *
ELECTRICAL FOR SPECTRORADIOMETRIC TEST	
Input Voltage (Volts AC)	480.0
Input Current (Amps AC)	0.284
Input Power (Watts)	133.6
Input Power Factor (%)	98.1
Input Current THD (%)	8.0
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

*NOTE:

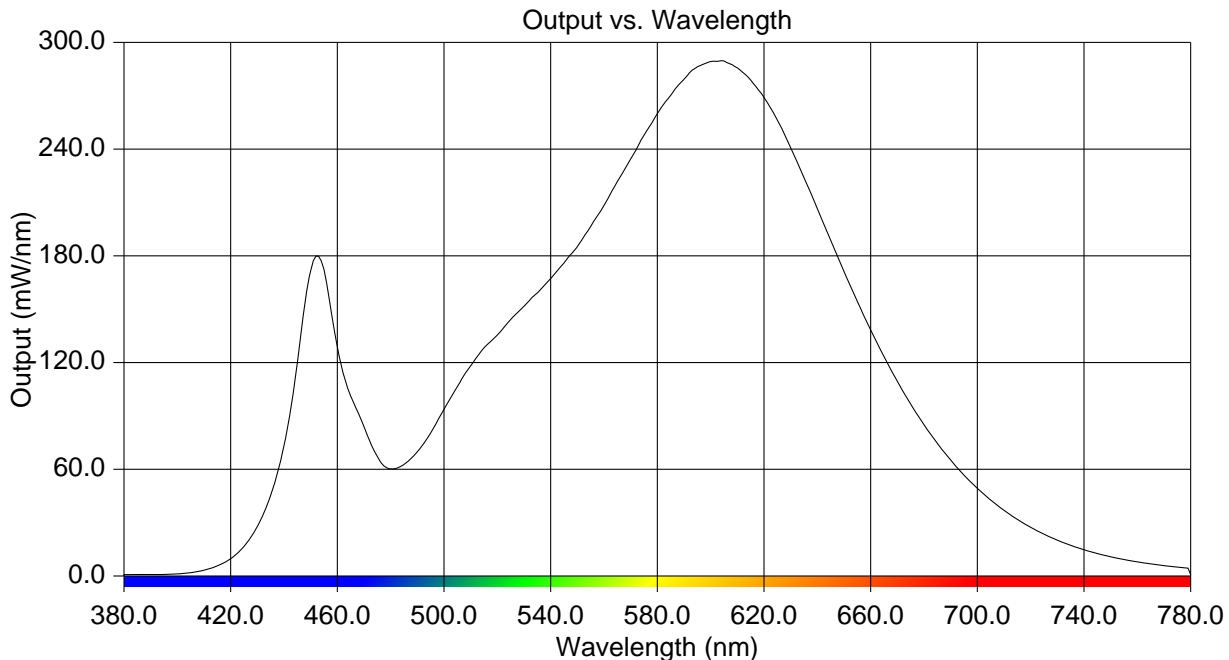
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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	0.724	515	128.355	650	171.165
385	0.792	520	135.477	655	154.453
390	0.802	525	144.195	660	138.447
395	0.913	530	151.786	665	123.265
400	1.160	535	159.226	670	109.396
405	1.834	540	167.248	675	96.808
410	3.218	545	176.056	680	85.062
415	5.716	550	185.208	685	74.427
420	9.820	555	196.600	690	65.136
425	16.555	560	208.344	695	56.732
430	27.728	565	221.886	700	49.334
435	45.668	570	234.679	705	42.773
440	73.439	575	247.886	710	37.014
445	119.797	580	260.157	715	31.813
450	171.668	585	270.340	720	27.328
455	172.426	590	279.349	725	23.396
460	128.952	595	286.424	730	20.067
465	101.229	600	289.480	735	17.225
470	84.125	605	289.724	740	14.764
475	67.231	610	285.838	745	12.625
480	60.159	615	278.983	750	10.855
485	62.681	620	269.185	755	9.228
490	69.651	625	256.686	760	7.937
495	80.439	630	240.832	765	6.755
500	93.805	635	224.083	770	5.811
505	106.533	640	206.383	775	5.018
510	118.173	645	188.914	780	0.751



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CIE Chromaticity Diagram

