

**REPORT NUMBER:** RAB04482

**PAGE:** 1 OF 10

**ISSUE DATE:** 07/13/18

**DATE SAMPLE TESTED:** 07/13/18

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

**CATALOG NUMBER:** BRISKM48L-730

**LUMINAIRE:** CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR, 1 WHITE CIRCUIT BOARD WITH 77 LEDS, MOLDED FROSTED PLASTIC LENS.

**LAMPS:** SEVENTY SEVEN WHITE LIGHT EMITTING DIODES (LEDS), TILTED 30-DEGREE FROM VERTICAL BASE-UP POSITION.

**NOTE:** 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.

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

**WATT:** TOTAL INPUT WATTS = 34.554W AT 120.0 VAC.

**LED DRIVER:** LED DRIVER: RDD-DBFE-030-A0901-02

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

**NOTE:** LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE  
AMBIENT: 25.5

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



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Checked X.CAO

Approved D.WANG-MUNSON

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## ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

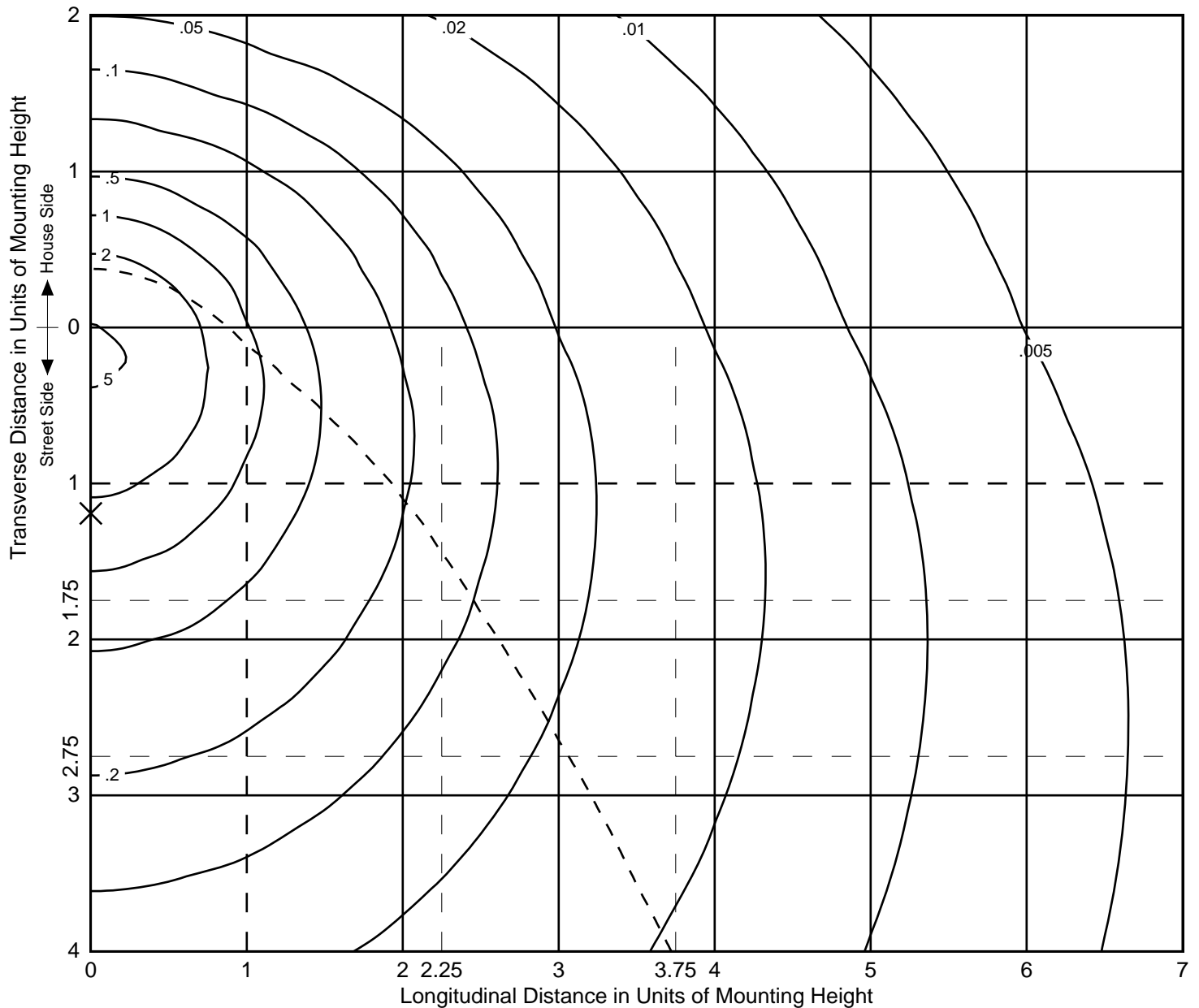
Values based on 15-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Noncutoff

— — — — — 1/2 Maximum Candela trace

× Maximum Candela point



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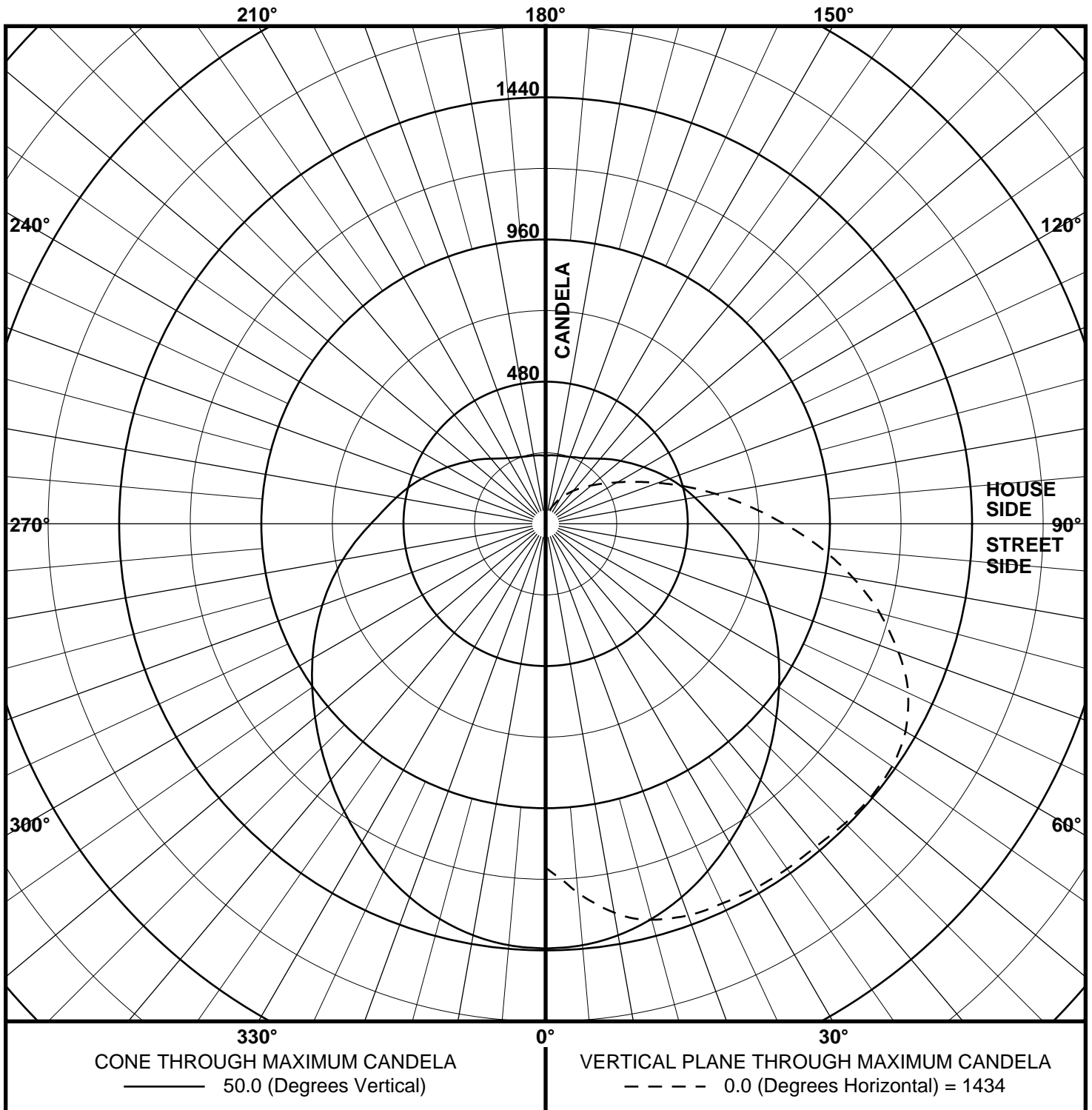
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



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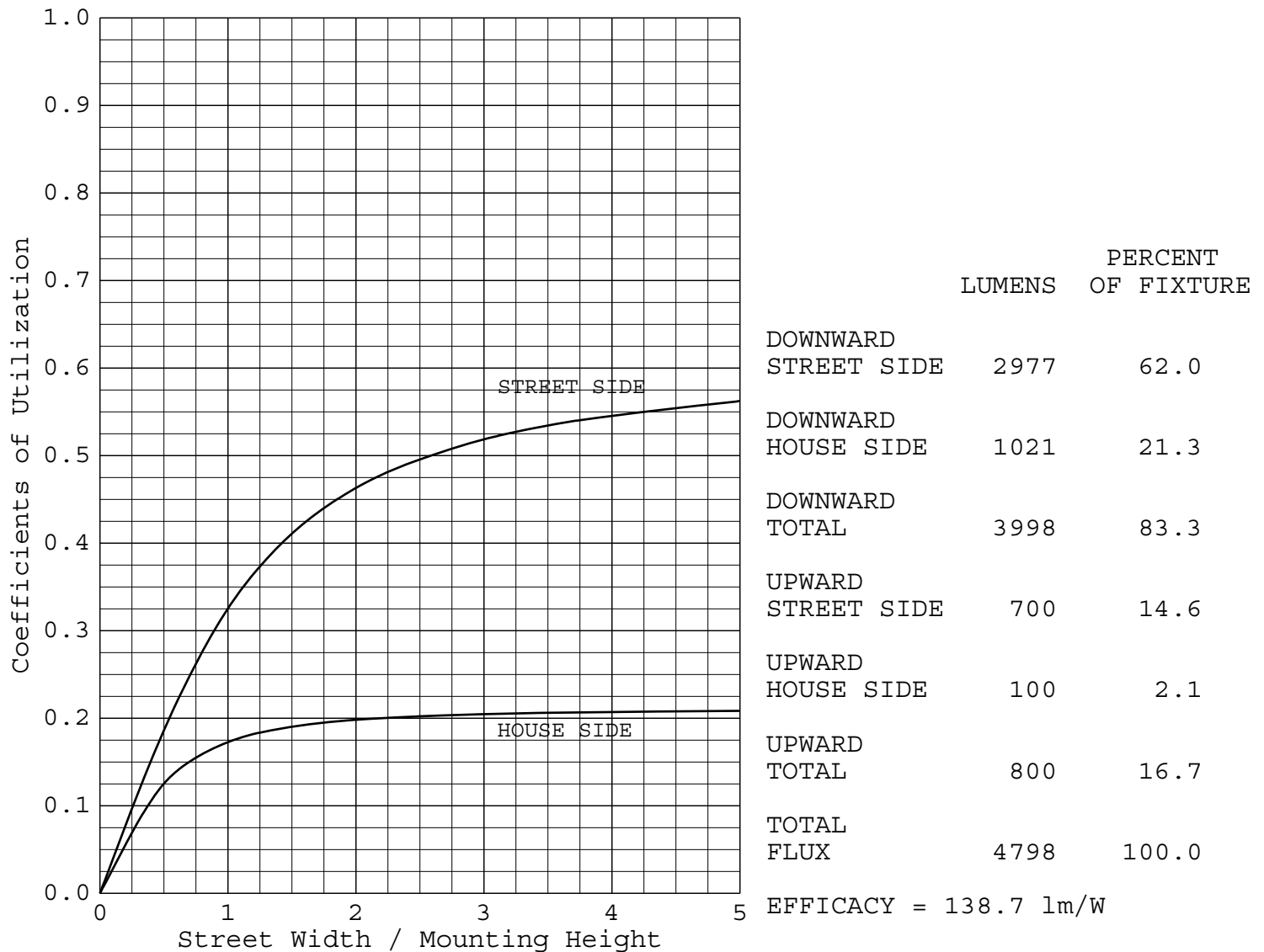
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## COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



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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**CATALOG NUMBER:** BRISKM48L-730

BUG Rating						B1	U4	G3
Zonal Summary			Lumens	% of Fixture		Zone Ratings		
						B	U	G
Forward			2977	62.0				
FL	(0° – 30°)		529.1	11.0				
FM	(30° – 60°)		1253.7	26.1				
FH	(60° – 80°)		867.6	18.1				G1
FVH	(80° – 90°)		326.4	6.8				G3
Backward			1021	21.3				
BL	(0° – 30°)		348.6	7.3		B1		
BM	(30° – 60°)		459.7	9.6		B1		
BH	(60° – 80°)		171.6	3.6		B1		G1
BVH	(80° – 90°)		41.3	0.9				G1
Upward			800	16.7				
UL	(90° – 100°)		268.3	5.6			U3	
UH	(100° – 180°)		531.8	11.1			U4	
Trapped Light			0	0.0				
Total Flux			4798	100.0				

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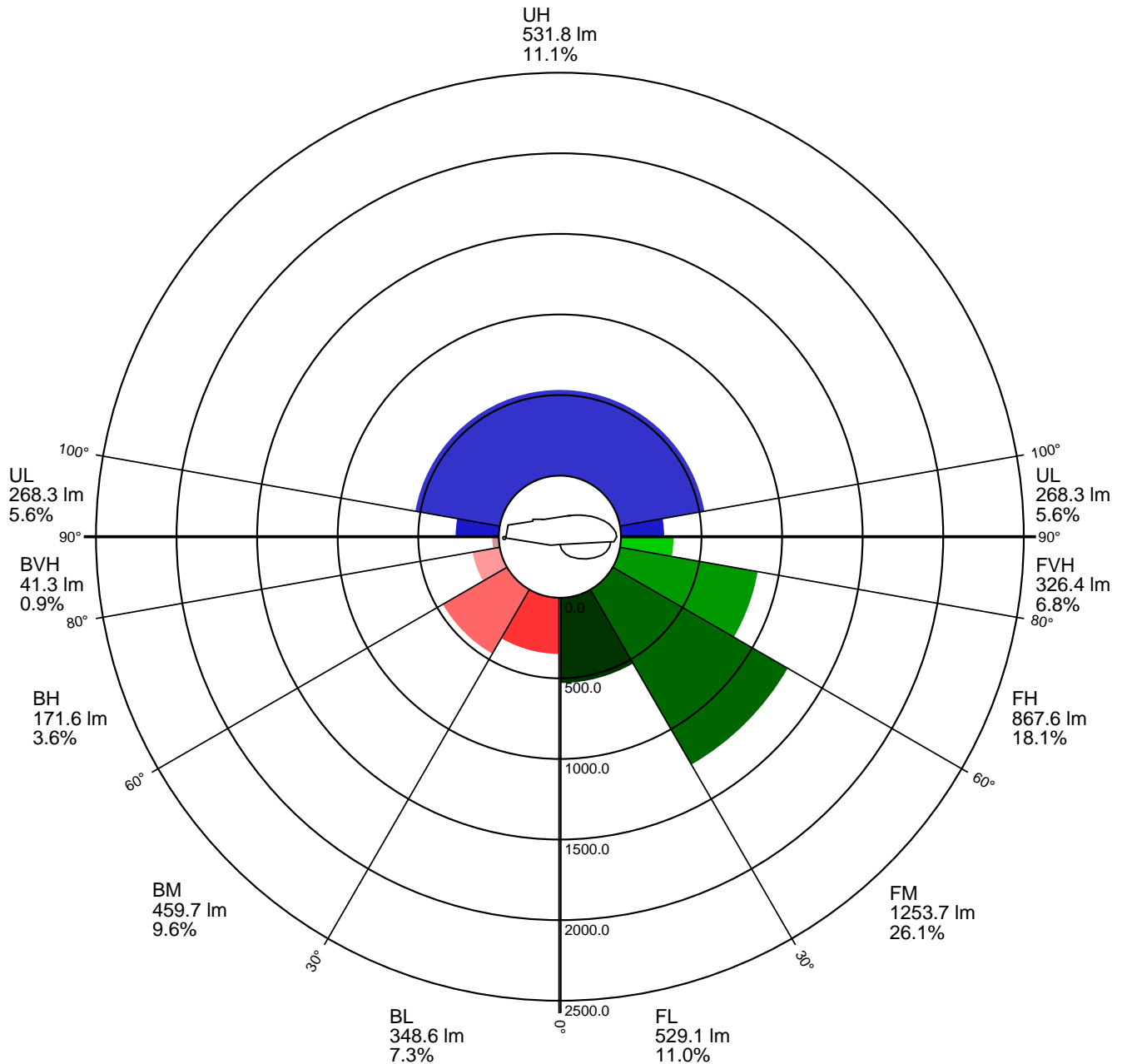
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## Zonal Lumen Summary

(Linear scale)



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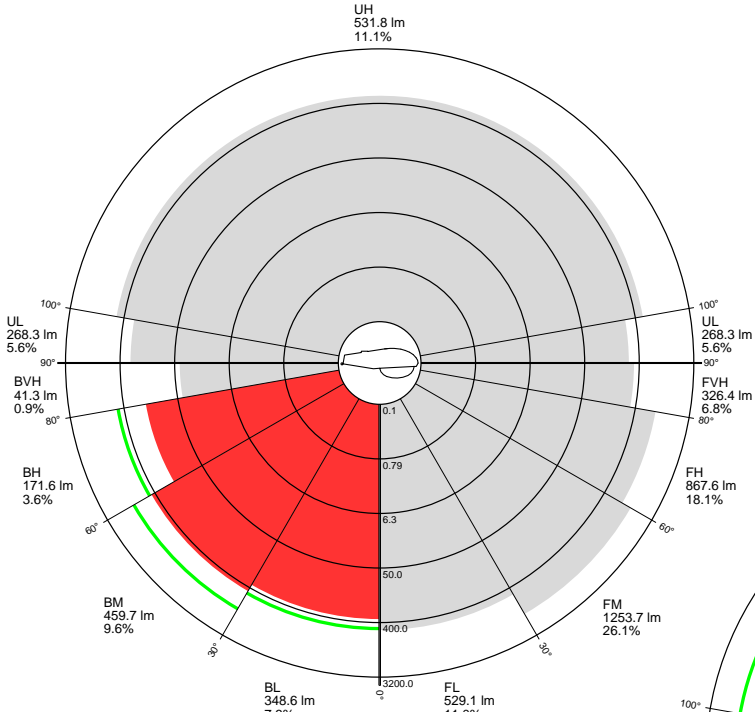
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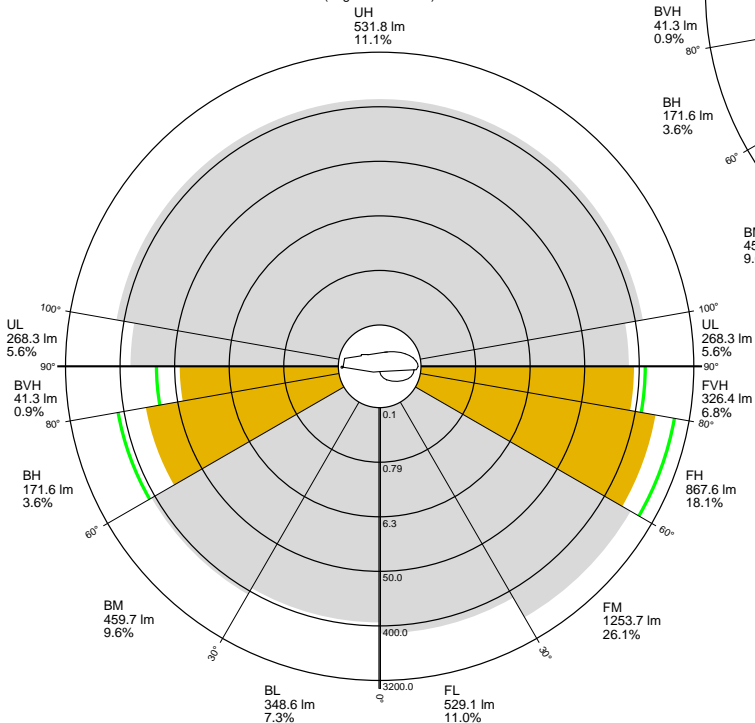
### Backlight Rating Details

(Logarithmic scale)



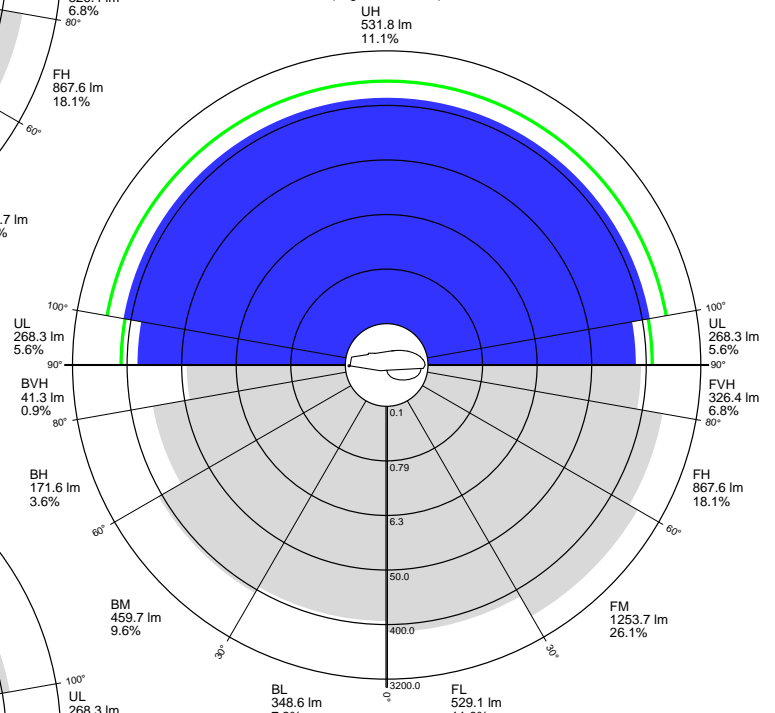
### Glare Rating Details

(Logarithmic scale)



### Uplight Rating Details

(Logarithmic scale)



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### CANDELA TABULATION

	STREET SIDE	LATERAL ANGLE										
		0.0	2.5	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	1.	1.	1.	3.	3.	5.	4.	4.	4.	4.	4.
	165.0	40.	39.	39.	39.	37.	36.	32.	27.	19.	12.	8.
	155.0	77.	76.	76.	76.	73.	71.	66.	60.	50.	35.	19.
	145.0	121.	120.	120.	118.	113.	109.	102.	92.	77.	62.	43.
	135.0	171.	169.	169.	165.	158.	150.	139.	125.	107.	87.	67.
	125.0	236.	232.	232.	225.	213.	199.	181.	160.	136.	110.	84.
	115.0	335.	329.	329.	316.	293.	268.	238.	207.	173.	138.	104.
	105.0	487.	479.	479.	457.	416.	371.	321.	273.	225.	176.	131.
	95.0	688.	683.	682.	649.	588.	515.	438.	366.	298.	233.	170.
	90.0	805.	800.	799.	760.	689.	602.	508.	425.	347.	270.	197.
	87.5	869.	863.	862.	821.	743.	653.	555.	462.	378.	298.	220.
	85.0	933.	926.	925.	881.	801.	702.	595.	501.	413.	326.	243.
	82.5	994.	988.	987.	942.	856.	755.	641.	541.	447.	358.	269.
V	80.0	1055.	1050.	1049.	1002.	912.	805.	685.	581.	484.	391.	298.
E	77.5	1114.	1108.	1106.	1057.	965.	853.	733.	621.	521.	423.	326.
R	75.0	1169.	1163.	1161.	1111.	1015.	901.	773.	660.	555.	456.	355.
T	72.5	1219.	1214.	1212.	1161.	1063.	944.	813.	698.	590.	488.	384.
I	70.0	1268.	1263.	1261.	1208.	1109.	987.	855.	735.	626.	521.	414.
C	67.5	1313.	1309.	1305.	1252.	1151.	1027.	892.	772.	661.	553.	444.
A	65.0	1351.	1346.	1343.	1289.	1187.	1062.	927.	805.	693.	584.	473.
L	62.5	1379.	1375.	1372.	1318.	1217.	1092.	956.	835.	722.	611.	500.
	60.0	1403.	1398.	1396.	1341.	1242.	1117.	984.	862.	750.	639.	527.
A	57.5	1418.	1415.	1411.	1358.	1261.	1139.	1008.	888.	776.	666.	556.
N	55.0	1428.	1424.	1421.	1369.	1274.	1156.	1029.	912.	802.	692.	583.
G	52.5	1432.	1429.	1425.	1375.	1284.	1171.	1050.	937.	828.	719.	610.
L	50.0<<	1434.	1432.	1428.	1381.	1294.	1186.	1072.	962.	856.	749.	641.
E	47.5	1433.	1432.	1428.	1383.	1302.	1201.	1093.	988.	885.	779.	675.
	45.0	1430.	1429.	1425.	1383.	1308.	1215.	1114.	1015.	914.	811.	707.
	42.5	1425.	1425.	1421.	1383.	1315.	1230.	1137.	1041.	944.	845.	742.
	40.0	1422.	1421.	1418.	1384.	1323.	1245.	1159.	1069.	976.	880.	780.
	37.5	1421.	1420.	1417.	1387.	1332.	1262.	1183.	1098.	1010.	917.	818.
	35.0	1422.	1421.	1418.	1391.	1343.	1279.	1208.	1129.	1045.	954.	860.
	32.5	1421.	1420.	1417.	1394.	1351.	1296.	1230.	1157.	1077.	991.	900.
	30.0	1420.	1419.	1416.	1396.	1359.	1309.	1251.	1183.	1108.	1024.	937.
	27.5	1417.	1416.	1415.	1396.	1364.	1321.	1268.	1205.	1135.	1056.	974.
	25.0	1414.	1414.	1412.	1397.	1369.	1330.	1283.	1225.	1161.	1087.	1009.
	20.0	1407.	1407.	1406.	1394.	1372.	1343.	1305.	1257.	1202.	1139.	1074.
	15.0	1384.	1386.	1384.	1375.	1359.	1337.	1307.	1270.	1227.	1177.	1125.
	10.0	1333.	1337.	1334.	1330.	1319.	1302.	1281.	1256.	1226.	1193.	1157.
	5.0	1251.	1254.	1252.	1250.	1245.	1239.	1227.	1214.	1200.	1184.	1167.
	0.0	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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### CANDELA TABULATION

HOUSE SIDE		LATERAL ANGLE									
		90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0 180.0
	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	4.	4.	3.	3.	3.	3.	2.	2.	1.	1.
	165.0	7.	7.	6.	7.	6.	5.	4.	3.	2.	2.
	155.0	15.	12.	17.	18.	15.	11.	7.	4.	3.	2.
	145.0	37.	33.	29.	25.	24.	16.	9.	5.	3.	2.
	135.0	61.	58.	50.	40.	31.	20.	10.	5.	3.	2.
	125.0	75.	70.	61.	50.	37.	24.	12.	6.	4.	3.
	115.0	91.	85.	73.	59.	44.	29.	14.	7.	5.	3.
	105.0	113.	104.	87.	70.	52.	33.	17.	8.	6.	5.
	95.0	144.	131.	106.	82.	59.	38.	19.	9.	7.	6.
	90.0	166.	149.	118.	90.	65.	41.	21.	10.	8.	7.
	87.5	185.	165.	131.	99.	71.	46.	25.	13.	10.	9.
	85.0	207.	184.	145.	112.	81.	55.	33.	20.	17.	16.
	82.5	230.	205.	162.	126.	93.	66.	42.	29.	25.	24.
V	80.0	255.	229.	182.	141.	107.	77.	53.	39.	35.	34.
E	77.5	281.	252.	201.	157.	121.	90.	65.	51.	46.	45.
R	75.0	309.	276.	222.	175.	137.	105.	78.	63.	58.	57.
T	72.5	336.	303.	245.	195.	153.	120.	92.	77.	72.	70.
I	70.0	364.	329.	268.	215.	171.	136.	108.	92.	86.	84.
C	67.5	393.	355.	292.	237.	191.	154.	125.	108.	101.	100.
A	65.0	421.	381.	317.	259.	211.	173.	141.	124.	117.	116.
L	62.5	447.	408.	341.	282.	232.	191.	159.	141.	134.	132.
	60.0	475.	435.	367.	306.	255.	212.	178.	160.	151.	149.
A	57.5	503.	460.	393.	331.	278.	235.	200.	179.	170.	167.
N	55.0	530.	488.	420.	357.	302.	257.	222.	200.	190.	187.
G	52.5	559.	516.	447.	384.	329.	282.	244.	222.	212.	209.
L	50.0<<	590.	547.	478.	413.	355.	308.	269.	247.	236.	232.
E	47.5	622.	579.	510.	443.	385.	338.	298.	273.	261.	256.
	45.0	656.	613.	544.	477.	416.	369.	326.	300.	289.	283.
	42.5	692.	650.	580.	515.	451.	400.	358.	332.	319.	311.
	40.0	732.	688.	619.	551.	487.	435.	393.	364.	352.	345.
	37.5	772.	729.	657.	589.	527.	475.	430.	401.	388.	381.
	35.0	813.	769.	699.	631.	569.	515.	471.	441.	427.	418.
	32.5	855.	812.	741.	674.	612.	558.	515.	483.	469.	459.
	30.0	894.	854.	783.	719.	657.	604.	559.	528.	513.	504.
	27.5	933.	893.	825.	762.	703.	651.	607.	576.	561.	551.
	25.0	970.	932.	866.	806.	750.	699.	657.	627.	612.	602.
	20.0	1041.	1008.	947.	896.	847.	803.	766.	738.	724.	714.
	15.0	1099.	1072.	1023.	980.	942.	908.	878.	856.	841.	833.
	10.0	1139.	1122.	1087.	1055.	1027.	1004.	984.	970.	959.	955.
	5.0	1159.	1150.	1133.	1117.	1102.	1089.	1078.	1070.	1065.	1062.
	0.0	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.	1161.

CONE OF MAXIMUM CANDELA

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**CATALOG NUMBER:** BRISKM48L-730

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	28
5- 10	82
10- 15	133
15- 20	178
20- 25	214
25- 30	243
30- 35	264
35- 40	278
40- 45	288
45- 50	294
50- 55	296
55- 60	295
60- 65	287
65- 70	273
70- 75	252
75- 80	227
80- 85	198
85- 90	169
90- 95	144
95-100	124
100-105	105
105-110	88
110-115	73
115-120	60
120-125	50
125-130	41
130-135	33
135-140	26
140-145	20
145-150	15
150-155	10
155-160	6
160-165	3
165-170	2
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	110
0- 20	421
0- 30	878
0- 40	1420
0- 50	2001
0- 60	2591
0- 70	3152
0- 80	3630
0- 90	3998
0-100	4266
0-110	4459
0-120	4592
0-130	4683
0-140	4743
0-150	4777
0-160	4793
0-170	4798
0-180	4798

REPORT NUMBER: RAB04483  
DATE: 7/13/2018  
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING  
CATALOG NUMBER: BRISKM48L-730

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR,  
1 WHITE CIRCUIT BOARD WITH 77 LEDS, MOLDED FROSTED PLASTIC LENS.

LAMP: SEVENTY SEVEN WHITE LIGHT EMITTING DIODES (LEDS), TILTED 30-DEGREE  
FROM VERTICAL BASE-UP POSITION.

DRIVER: RDD-DBFE-030-A0901-02

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT  
VOLTAGES (120.0 AND 277.0 VAC, 60Hz) TO THE TEST SAMPLE.

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	05/24/19

OBJECT OF TEST: Measure the Absolute Flux in lumens\*, 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. Measure electrical data including Total Harmonic Distortion (THD) at maximum nominal rated input voltage. Report Off-State Power.

PROCEDURE: The test sample was mounted inside the integrating sphere, energized, 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 60 HZ input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. Electrical data was also recorded at maximum nominal rated input voltage (277.0 VAC). 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:

PHOTOMETRIC	
Total Integrated Flux (lumens)	4798 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4325
Chromaticity Ordinate y	0.4018
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2487
Chromaticity Ordinate v'	0.5198
Correlated Color Temp CCT (K)	3057
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	13411 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.289
Input Power (Watts)	34.6
Input Power Factor (%)	99.7
Input Current THD (%)	6.5
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	138.7
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.128
Input Power (Watts)	34.1
Input Power Factor (%)	96.0
Input Current THD (%)	10.7
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	71
R1 Light greyish red	66
R2 Dark greyish yellow	83
R3 Strong yellowish green	94
R4 Moderate yellowish green	66
R5 Light bluish green	67
R6 Light blue	77
R7 Light violet	75
R8 Light reddish purple	38
R9 Strong red	-44
R10 Strong yellow	62
R11 Strong green	61
R12 Strong blue	53
R13 Light yellowish pink (skin)	69
R14 Moderate olive green (leaf)	97

### \*NOTE:

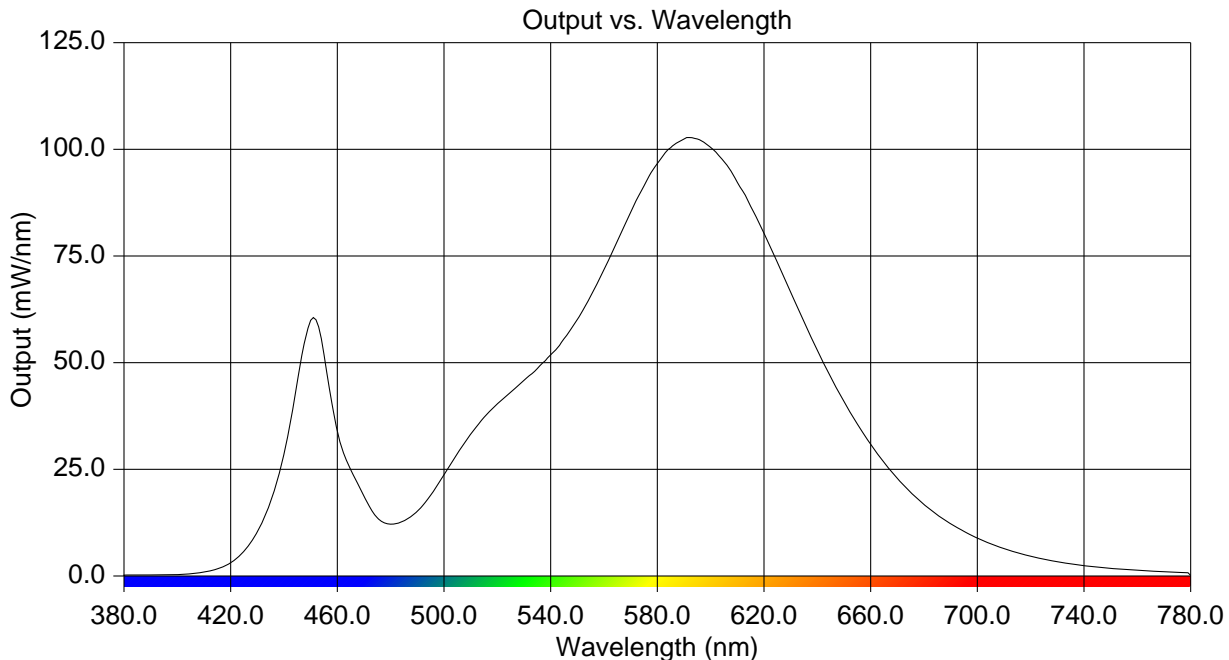
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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	0.200	515	37.209	650	40.890
385	0.223	520	40.374	655	35.622
390	0.234	525	43.071	660	30.865
395	0.268	530	45.814	665	26.618
400	0.347	535	48.619	670	22.873
405	0.505	540	51.889	675	19.572
410	0.905	545	55.600	680	16.786
415	1.677	550	60.103	685	14.332
420	3.154	555	65.614	690	12.219
425	5.772	560	71.769	695	10.456
430	10.345	565	78.477	700	8.892
435	17.546	570	85.320	705	7.508
440	28.798	575	91.425	710	6.423
445	45.356	580	96.622	715	5.456
450	59.930	585	100.382	720	4.632
455	51.910	590	102.363	725	3.921
460	33.948	595	102.429	730	3.343
465	24.928	600	100.451	735	2.848
470	18.703	605	97.148	740	2.446
475	13.636	610	92.261	745	2.091
480	12.124	615	86.635	750	1.788
485	12.960	620	80.404	755	1.544
490	15.190	625	73.599	760	1.327
495	18.940	630	66.515	765	1.141
500	23.762	635	59.527	770	0.993
505	28.639	640	52.832	775	0.852
510	33.288	645	46.711	780	0.129



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## CIE Chromaticity Diagram

