

**REPORT NUMBER:** RAB04696

**PAGE:** 1 OF 10

**ISSUE DATE:** 11/15/18

**DATE SAMPLE TESTED:** 11/15/18

**PREPARED FOR:** RAB LIGHTING INC.

**CATALOG NUMBER:** W34-30L-830-480

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

**LAMPS:** SIXTY WHITE LIGHT EMITTING DIODES (LEDs)

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

**WATT:** TOTAL INPUT WATTS = 28.6 W AT 480.0 VAC.

**LED DRIVER:** LED DRIVER: RDD-LT40-A0700-60PF

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

**NOTE:** LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE  
AMBIENT: 25.6

**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

REPORT NUMBER: RAB04696

ISSUE DATE: 11/15/18

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: W34-30L-830-480

PAGE: 2 OF 10

DATE SAMPLE TESTED: 11/15/18

## ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

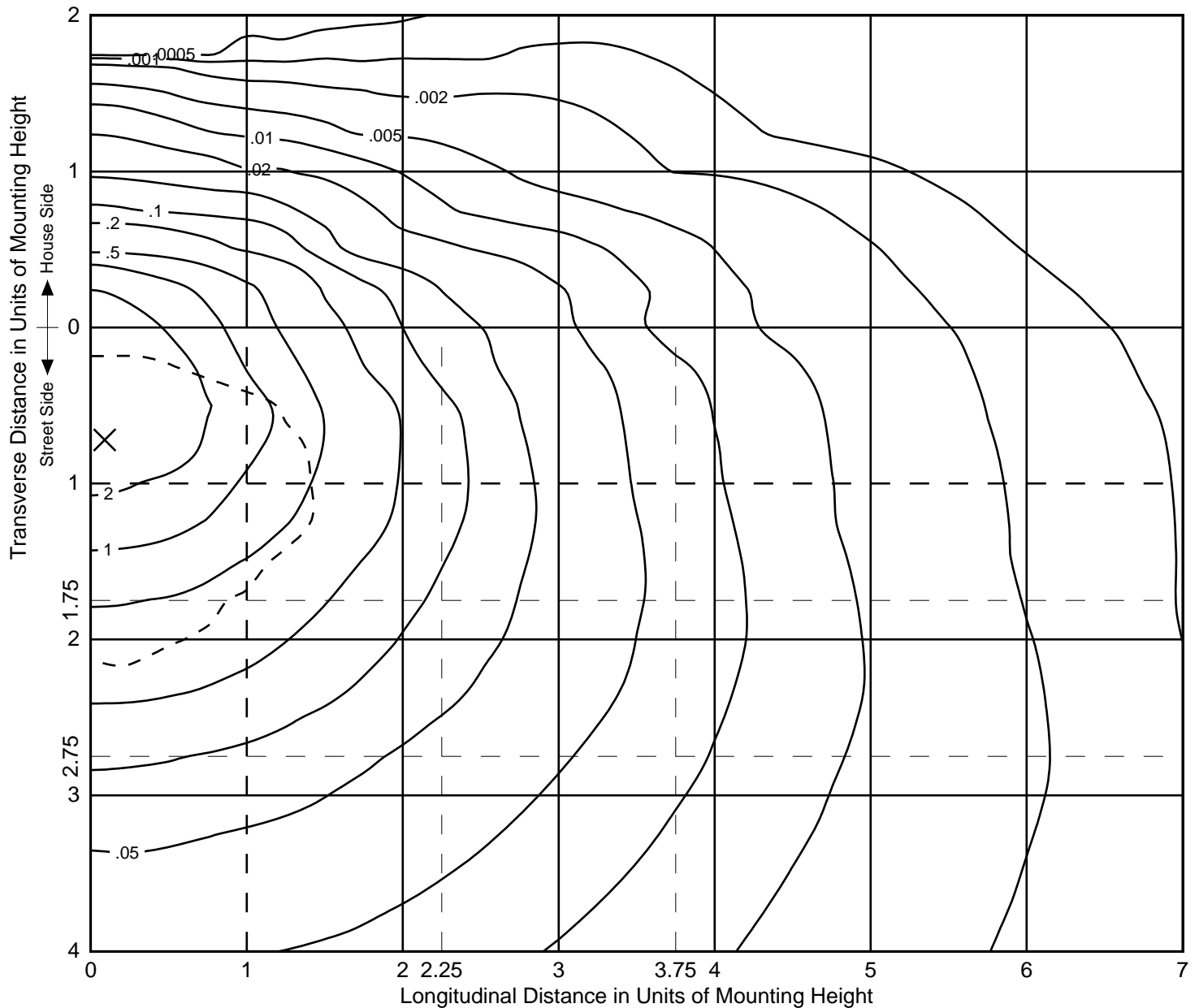
Values based on 16-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Semicutoff

--- 1/2 Maximum Candela trace

× Maximum Candela point



REPORT NUMBER: RAB04696

ISSUE DATE: 11/15/18

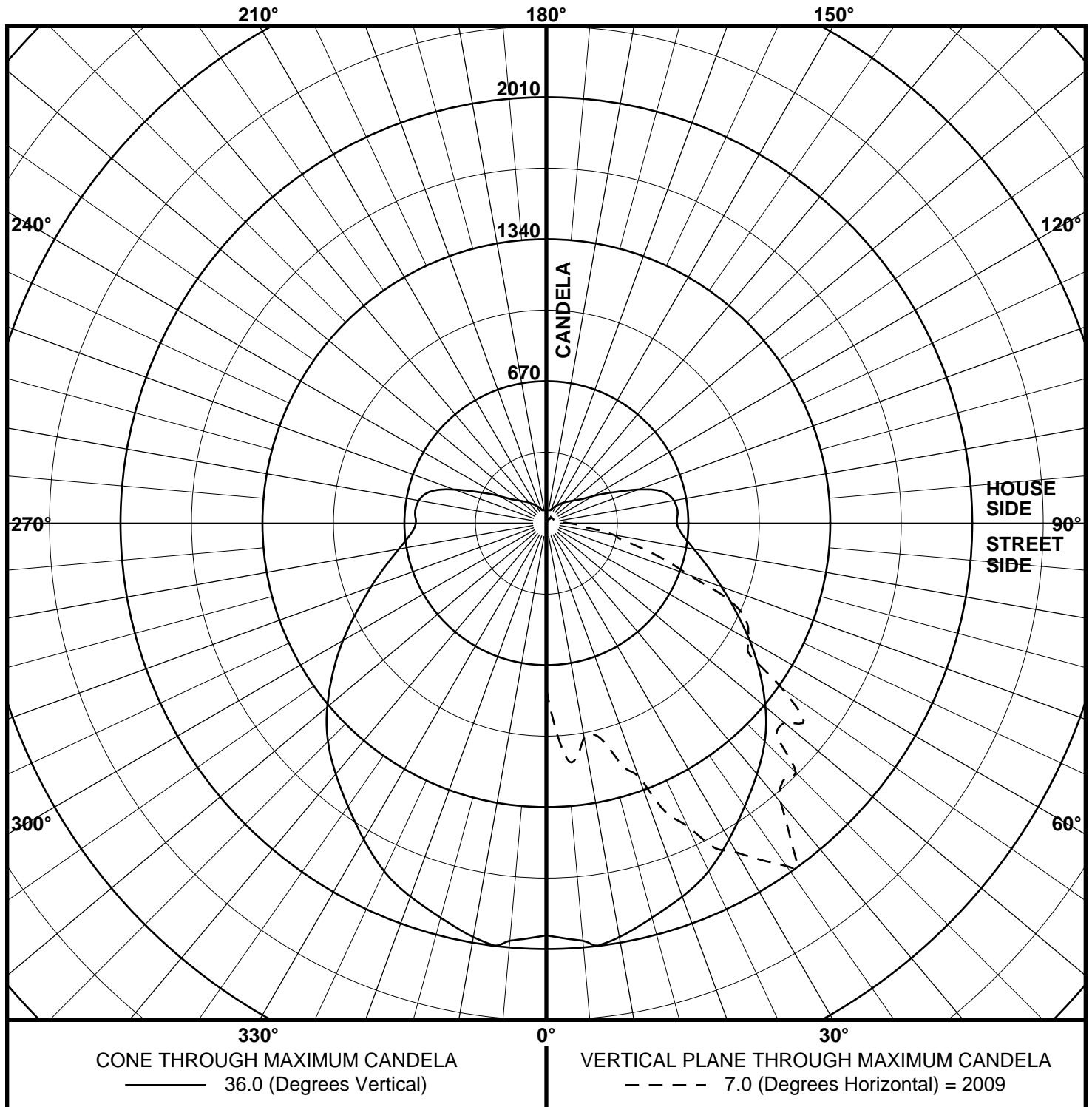
PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: W34-30L-830-480

PAGE: 3 OF 10

DATE SAMPLE TESTED: 11/15/18

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



**REPORT NUMBER:** RAB04696

**PAGE:** 4 OF 10

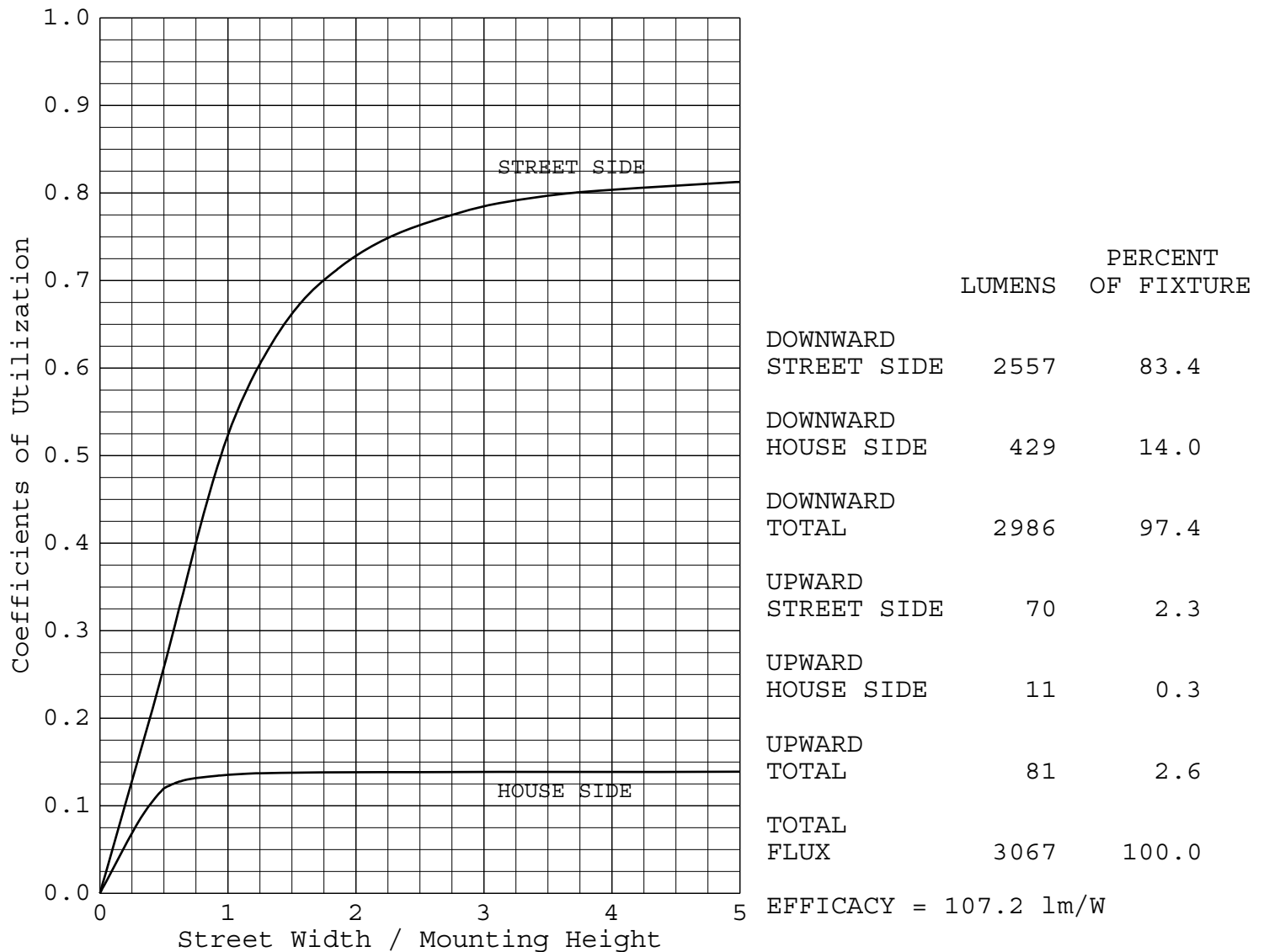
**ISSUE DATE:** 11/15/18

**DATE SAMPLE TESTED:** 11/15/18

**PREPARED FOR:** RAB LIGHTING INC.

**CATALOG NUMBER:** W34-30L-830-480

## 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.

**REPORT NUMBER:** RAB04696

**PAGE:** 5 OF 10

**ISSUE DATE:** 11/15/18

**DATE SAMPLE TESTED:** 11/15/18

**PREPARED FOR:** RAB LIGHTING INC.

**CATALOG NUMBER:** W34-30L-830-480

BUG Rating						B1	U3	G1
Zonal Summary			Lumens	% of Fixture		Zone Ratings		
						B	U	G
Forward			2557	83.4				
FL	(0° – 30°)		463.6	15.1				
FM	(30° – 60°)		1413.9	46.1				
FH	(60° – 80°)		604.4	19.7				G0
FVH	(80° – 90°)		74.6	2.4				G1
Backward			429	14.0				
BL	(0° – 30°)		205.3	6.7		B1		
BM	(30° – 60°)		187.8	6.1		B0		
BH	(60° – 80°)		32.6	1.1		B0		G0
BVH	(80° – 90°)		3.8	0.1				G0
Upward			81	2.6				
UL	(90° – 100°)		25.7	0.8			U2	
UH	(100° – 180°)		54.8	1.8			U3	
Trapped Light			0	0.0				
Total Flux			3067	100.0				

REPORT NUMBER: RAB04696

ISSUE DATE: 11/15/18

PREPARED FOR: RAB LIGHTING INC.

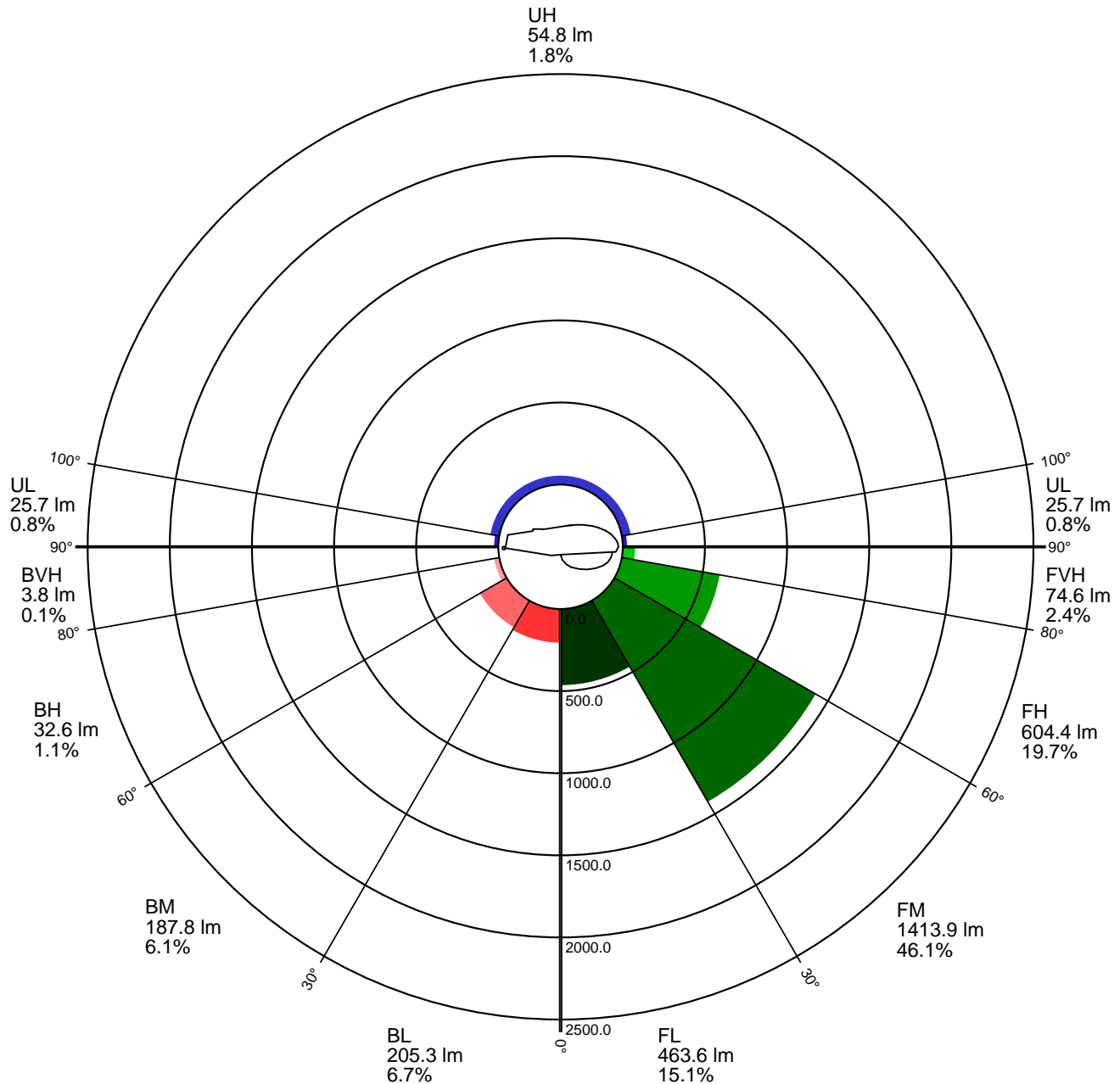
CATALOG NUMBER: W34-30L-830-480

PAGE: 6 OF 10

DATE SAMPLE TESTED: 11/15/18

## Zonal Lumen Summary

(Linear scale)

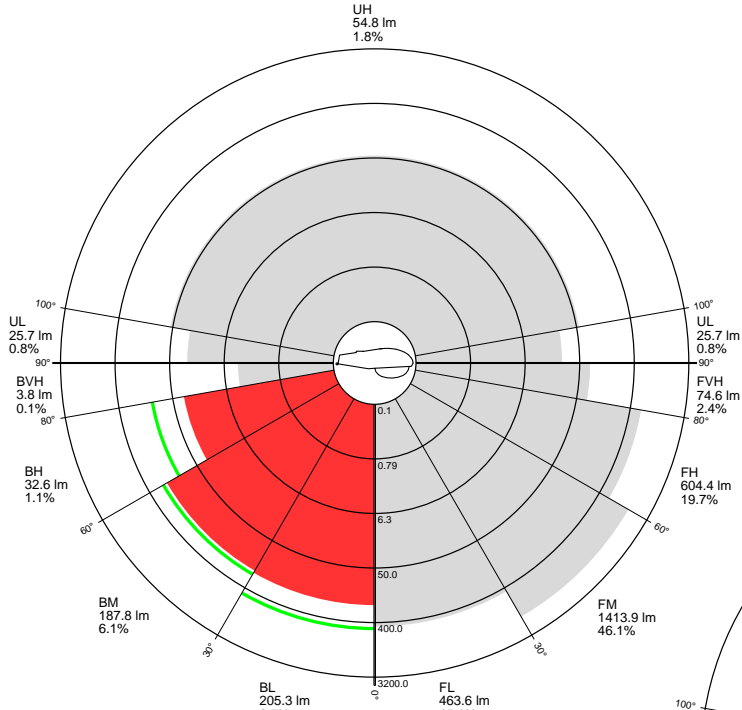


**REPORT NUMBER:** RAB04696  
**ISSUE DATE:** 11/15/18  
**PREPARED FOR:** RAB LIGHTING INC.  
**CATALOG NUMBER:** W34-30L-830-480

**PAGE:** 7 OF 10  
**DATE SAMPLE TESTED:** 11/15/18

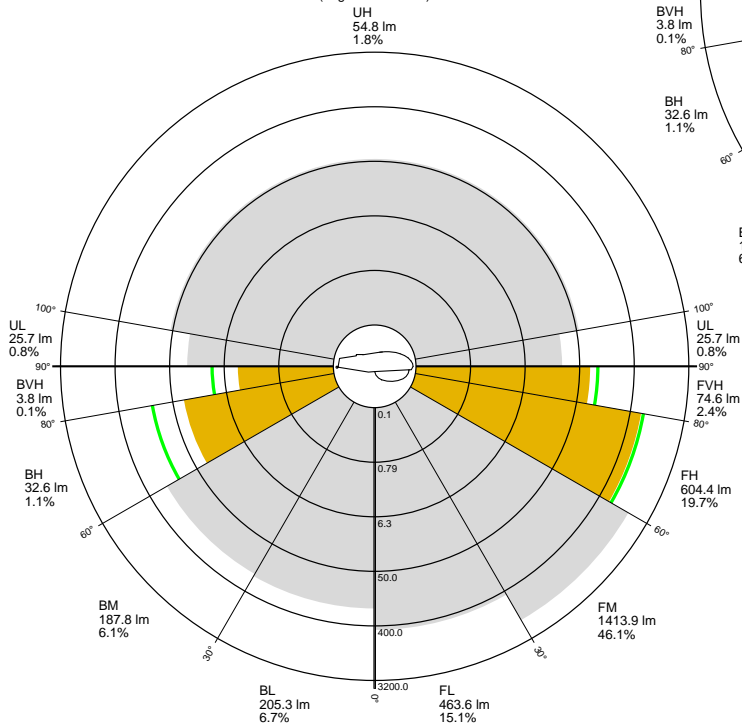
## Backlight Rating Details

(Logarithmic scale)



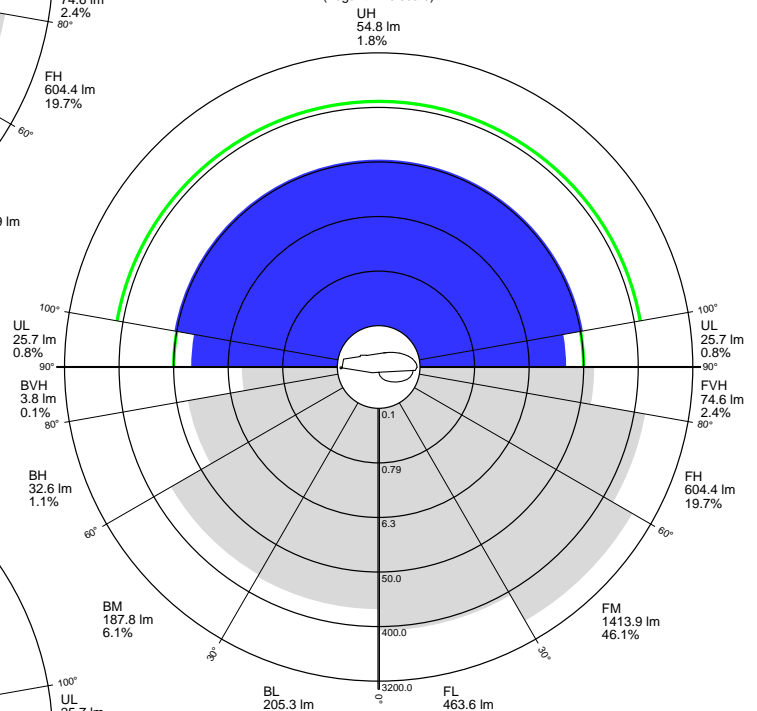
## Glare Rating Details

(Logarithmic scale)



## Uplight Rating Details

(Logarithmic scale)



REPORT NUMBER: RAB04696

PAGE: 8 OF 10

ISSUE DATE: 11/15/18

DATE SAMPLE TESTED: 11/15/18

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: W34-30L-830-480

### CANDELA TABULATION

	STREET SIDE			LATERAL ANGLE							
	0.0	5.0	7.0	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.
	175.0	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.
	165.0	4.	3.	3.	3.	3.	2.	2.	2.	3.	3.
	155.0	10.	10.	10.	10.	9.	7.	6.	4.	3.	3.
	145.0	26.	26.	25.	24.	21.	16.	12.	8.	6.	5.
	135.0	37.	37.	38.	36.	31.	24.	15.	11.	7.	5.
	125.0	38.	38.	38.	35.	30.	24.	18.	13.	8.	7.
	115.0	39.	38.	38.	35.	29.	23.	19.	17.	13.	9.
	105.0	40.	41.	41.	37.	31.	24.	20.	19.	16.	12.
	95.0	54.	56.	55.	54.	49.	42.	37.	37.	31.	19.
	90.0	99.	102.	102.	102.	96.	82.	80.	68.	48.	29.
	87.5	144.	146.	143.	139.	125.	116.	94.	86.	71.	44.
	85.0	158.	160.	160.	165.	164.	138.	136.	118.	100.	65.
	82.5	226.	232.	235.	236.	251.	216.	203.	165.	140.	91.
V	80.0	316.	318.	323.	311.	293.	271.	260.	239.	210.	133.
E	77.5	368.	366.	365.	360.	360.	372.	360.	336.	283.	188.
R	75.0	473.	485.	476.	474.	509.	469.	445.	458.	360.	238.
T	72.5	581.	601.	598.	583.	588.	566.	614.	530.	437.	310.
I	70.0	718.	707.	713.	708.	734.	760.	678.	625.	571.	393.
C	67.5	901.	912.	917.	935.	903.	842.	777.	724.	647.	495.
A	65.0	1021.	1048.	1025.	994.	982.	925.	848.	875.	701.	583.
L	62.5	1063.	1081.	1074.	1040.	1026.	955.	977.	943.	796.	608.
	60.0	1109.	1111.	1101.	1156.	1066.	1167.	1138.	992.	881.	633.
A	57.5	1150.	1148.	1126.	1174.	1286.	1291.	1161.	1071.	977.	671.
N	55.0	1321.	1355.	1354.	1436.	1435.	1348.	1187.	1117.	1024.	738.
G	52.5	1557.	1560.	1531.	1498.	1443.	1314.	1303.	1206.	1076.	738.
L	50.0	1482.	1496.	1467.	1477.	1426.	1437.	1322.	1272.	1106.	737.
E	47.5	1459.	1485.	1473.	1449.	1548.	1489.	1420.	1309.	1133.	728.
	45.0	1624.	1637.	1665.	1634.	1596.	1544.	1510.	1332.	1135.	748.
	42.5	1614.	1656.	1652.	1605.	1635.	1706.	1524.	1327.	1118.	764.
	40.0	1653.	1728.	1721.	1742.	1809.	1766.	1512.	1301.	1062.	779.
	37.5	1878.	1907.	1899.	1851.	1855.	1692.	1466.	1264.	1024.	791.
	36.0<<	1945.	1978.	2009.	1928.	1812.	1632.	1458.	1230.	987.	787.
	35.0	1946.	1982.	1975.	1908.	1793.	1619.	1448.	1238.	988.	812.
	32.5	1858.	1880.	1885.	1799.	1704.	1629.	1394.	1215.	1019.	785.
	30.0	1787.	1786.	1794.	1693.	1633.	1496.	1358.	1194.	1013.	813.
	25.0	1582.	1582.	1580.	1516.	1440.	1352.	1291.	1105.	890.	867.
	20.0	1300.	1289.	1274.	1238.	1287.	1101.	1118.	1092.	992.	932.
	15.0	1098.	1074.	1076.	1096.	1148.	1013.	1053.	979.	877.	801.
	10.0	1029.	1022.	1030.	999.	919.	1030.	1001.	938.	928.	887.
	5.0	1130.	1121.	1117.	1095.	957.	868.	774.	836.	959.	863.
	0.0	785.	785.	785.	785.	785.	785.	785.	785.	785.	785.

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



REPORT NUMBER: RAB04696

PAGE: 9 OF 10

ISSUE DATE: 11/15/18

DATE SAMPLE TESTED: 11/15/18

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: W34-30L-830-480

### 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
V E R T I C A L  A N G L E	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.
	165.0	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
	155.0	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
	145.0	4.	3.	3.	3.	3.	3.	3.	4.	4.	4.	4.
	135.0	4.	4.	3.	3.	3.	3.	4.	4.	4.	4.	4.
	125.0	6.	4.	3.	3.	3.	3.	3.	3.	3.	3.	3.
	115.0	7.	6.	4.	3.	3.	3.	2.	3.	3.	3.	2.
	105.0	9.	7.	5.	4.	3.	3.	2.	2.	2.	3.	3.
	95.0	9.	8.	5.	4.	3.	3.	2.	2.	2.	2.	2.
	90.0	14.	10.	7.	5.	3.	2.	2.	2.	1.	2.	2.
	87.5	26.	13.	8.	6.	3.	2.	2.	2.	2.	2.	2.
	85.0	40.	20.	11.	7.	3.	2.	2.	2.	1.	2.	1.
	82.5	61.	37.	15.	9.	4.	2.	2.	1.	1.	1.	2.
	80.0	88.	61.	20.	11.	4.	2.	2.	1.	1.	1.	1.
	77.5	107.	91.	26.	15.	5.	3.	2.	1.	1.	1.	1.
	75.0	114.	121.	33.	21.	6.	2.	2.	1.	1.	1.	1.
	72.5	168.	161.	41.	24.	7.	3.	1.	1.	1.	1.	1.
	70.0	229.	183.	48.	27.	8.	3.	1.	1.	1.	0.	0.
	67.5	261.	189.	54.	34.	11.	4.	1.	1.	1.	0.	0.
	65.0	276.	226.	58.	44.	16.	7.	2.	1.	1.	0.	0.
	62.5	291.	289.	63.	56.	23.	11.	4.	1.	1.	0.	0.
	60.0	331.	334.	83.	73.	34.	17.	8.	4.	1.	1.	1.
	57.5	358.	374.	127.	93.	47.	21.	13.	9.	9.	6.	6.
	55.0	397.	413.	200.	111.	62.	27.	17.	13.	12.	14.	14.
	52.5	439.	475.	285.	126.	79.	35.	22.	17.	17.	18.	18.
	50.0	497.	522.	346.	144.	97.	44.	29.	21.	20.	22.	22.
	47.5	505.	547.	383.	177.	115.	56.	35.	27.	23.	25.	25.
45.0	503.	564.	425.	211.	126.	74.	42.	35.	30.	29.	29.	
42.5	528.	582.	464.	246.	139.	95.	55.	41.	39.	39.	39.	
40.0	562.	600.	487.	277.	160.	117.	72.	52.	43.	43.	43.	
37.5	597.	616.	531.	324.	181.	134.	94.	67.	55.	52.	52.	
36.0<<	616.	622.	570.	342.	194.	143.	109.	81.	62.	61.	60.	
35.0	630.	632.	582.	346.	202.	154.	121.	89.	70.	64.	64.	
32.5	644.	634.	609.	418.	221.	168.	143.	119.	101.	90.	90.	
30.0	651.	649.	576.	448.	302.	183.	161.	138.	132.	115.	115.	
25.0	667.	681.	642.	528.	419.	297.	205.	168.	169.	146.	146.	
20.0	697.	782.	613.	535.	546.	426.	331.	310.	254.	207.	206.	
15.0	760.	813.	740.	609.	530.	583.	630.	467.	444.	489.	477.	
10.0	772.	850.	732.	830.	595.	822.	582.	556.	654.	828.	819.	
5.0	764.	827.	888.	845.	738.	745.	757.	866.	877.	809.	852.	
0.0	785.	785.	785.	785.	785.	785.	785.	785.	785.	785.	785.	

CONE OF MAXIMUM CANDELA

**REPORT NUMBER:** RAB04696

**PAGE:** 10 OF 10

**ISSUE DATE:** 11/15/18

**DATE SAMPLE TESTED:** 11/15/18

**PREPARED FOR:** RAB LIGHTING INC.

**CATALOG NUMBER:** W34-30L-830-480

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	21
5- 10	61
10- 15	96
15- 20	130
20- 25	161
25- 30	200
30- 35	238
35- 40	268
40- 45	280
45- 50	282
50- 55	279
55- 60	254
60- 65	223
65- 70	189
70- 75	137
75- 80	88
80- 85	51
85- 90	27
90- 95	16
95-100	10
100-105	8
105-110	7
110-115	6
115-120	6
120-125	5
125-130	5
130-135	5
135-140	4
140-145	3
145-150	2
150-155	1
155-160	1
160-165	1
165-170	0
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	81
0- 20	308
0- 30	669
0- 40	1175
0- 50	1737
0- 60	2271
0- 70	2683
0- 80	2908
0- 90	2986
0-100	3012
0-110	3027
0-120	3039
0-130	3050
0-140	3058
0-150	3063
0-160	3065
0-170	3066
0-180	3067

REPORT NUMBER: RAB04697  
DATE: 11/15/2018  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: W34-30L-830-480

Page 1 of 4

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

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

LAMP: SIXTY WHITE LIGHT EMITTING DIODES (LEDs)

DRIVER: RDD-LT40-A0700-60PF

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (480.0 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	8/22/19

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	<u>X.CAO</u>
Approved	<u>D.WANG-MUNSON</u> Lighting Engineer

REPORT NUMBER: RAB04697  
DATE: 11/15/2018  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: W34-30L-830-480

Page 2 of 4

RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4284
Chromaticity Ordinate y	0.4025
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2457
Chromaticity Ordinate v'	0.5195
Correlated Color Temp CCT (K)	3136
Color Rendering Index (CRIa)	82
Color Rendering Index 1 (Light greyish red)	80
Color Rendering Index 2 (Dark greyish yellow)	90
Color Rendering Index 3 (Strong yellowish green)	97
Color Rendering Index 4 (Moderate yellowish green)	81
Color Rendering Index 5 (Light bluish green)	81
Color Rendering Index 6 (Light blue)	87
Color Rendering Index 7 (Light violet)	84
Color Rendering Index 8 (Light reddish purple)	60
Color Rendering Index 9 (Strong red)	7
Color Rendering Index 10 (Strong yellow)	76
Color Rendering Index 11 (Strong green)	80
Color Rendering Index 12 (Strong blue)	68
Color Rendering Index 13 (Light yellowish pink (skin))	82
Color Rendering Index 14 (Moderate olive green (leaf))	98
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	9311 *
ELECTRICAL FOR SPECTRORADIOMETRIC TEST	
Input Voltage (Volts AC )	480.0
Input Current (Amps AC )	0.064
Input Power (Watts)	28.6
Input Power Factor (%)	92.4
Input Current THD (%)	6.6
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

\*NOTE:

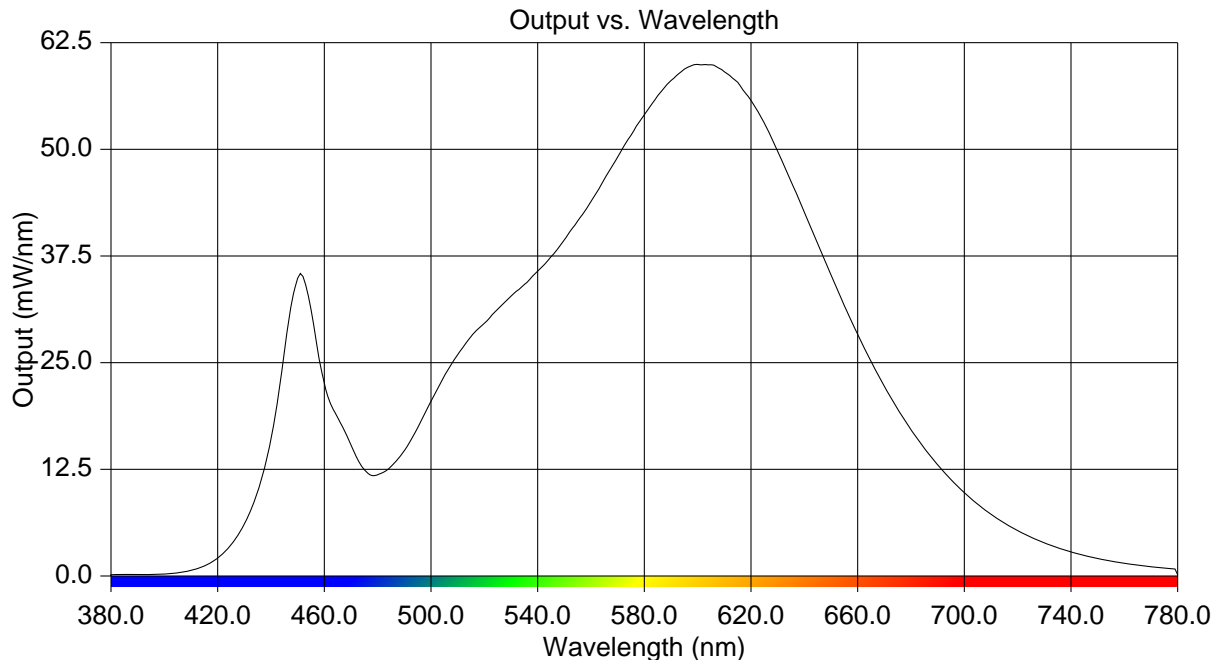
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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.

REPORT NUMBER: RAB04697  
DATE: 11/15/2018  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: W34-30L-830-480

Page 3 of 4

### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.145	515	28.056	650	35.293
385	0.163	520	29.617	655	31.675
390	0.164	525	31.263	660	28.336
395	0.185	530	32.792	665	25.141
400	0.235	535	34.157	670	22.280
405	0.365	540	35.705	675	19.562
410	0.642	545	37.415	680	17.139
415	1.175	550	39.377	685	14.949
420	2.104	555	41.601	690	13.019
425	3.629	560	43.907	695	11.299
430	6.097	565	46.553	700	9.768
435	9.908	570	49.150	705	8.422
440	16.143	575	51.646	710	7.240
445	26.136	580	54.029	715	6.202
450	34.900	585	56.279	720	5.314
455	31.254	590	58.043	725	4.545
460	22.564	595	59.396	730	3.882
465	18.568	600	59.944	735	3.314
470	15.354	605	59.909	740	2.811
475	12.451	610	59.092	745	2.405
480	11.875	615	57.863	750	2.051
485	12.843	620	55.737	755	1.749
490	14.695	625	53.126	760	1.490
495	17.368	630	49.773	765	1.268
500	20.472	635	46.244	770	1.082
505	23.476	640	42.635	775	0.927
510	25.979	645	38.899	780	0.139



REPORT NUMBER: RAB04697  
DATE: 11/15/2018  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: W34-30L-830-480

Page 4 of 4

## CIE Chromaticity Diagram

