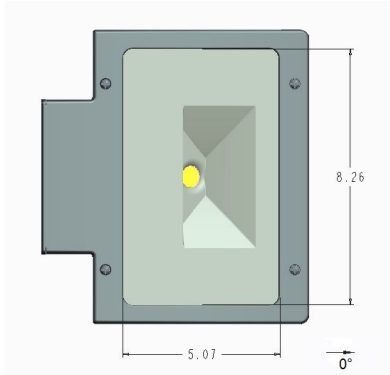


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 15 foot mounting height.



REPORT NUMBER: RAB02619
 ISSUE DATE: 10/25/16 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 10/25/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WPLED26-WPLED26/D10
 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)

LUMINAIRE: CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 33-DEGREES FROM VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 29.962 AT 277.0 VOLTS

LED DRIVERS: RDF25U7-32

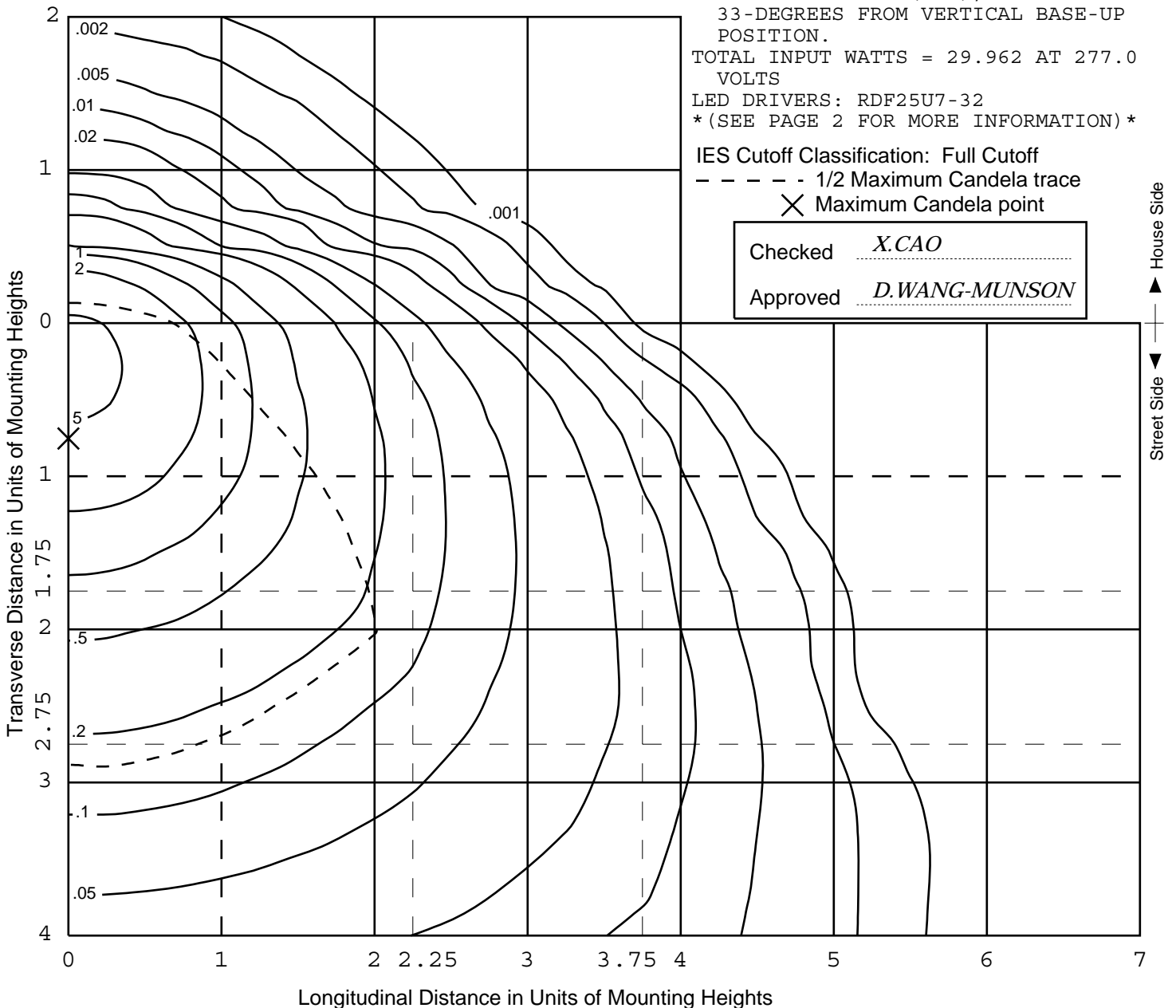
(SEE PAGE 2 FOR MORE INFORMATION)

IES Cutoff Classification: Full Cutoff

----- 1/2 Maximum Candela trace

X Maximum Candela point

Checked	<i>X.CAO</i>
Approved	<i>D.WANG-MUNSON</i>



House Side
 Street Side

REPORT NUMBER: RAB02619
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PREPARED FOR: RAB LIGHTING INC.

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ADDITIONAL INFORMATION

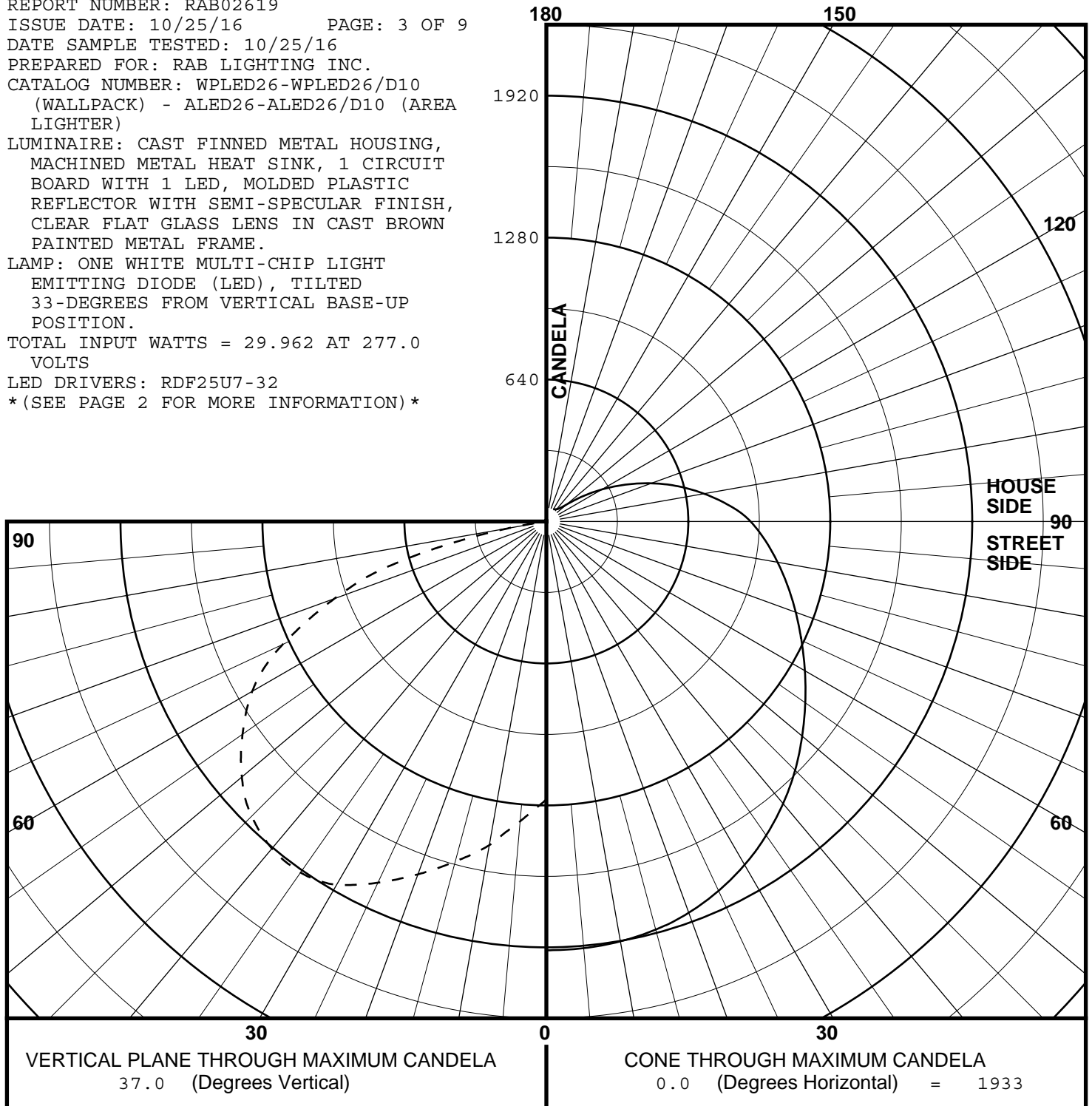
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT
VOLTAGE TO THE LED DRIVERS.

TEST PROCEDURE: IESNA LM-79-08
ACCREDITED LABORATORY CODE 201058-0
TEST DISTANCE = 28.25 FEET

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.

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: RAB02619
 ISSUE DATE: 10/25/16 PAGE: 3 OF 9
 DATE SAMPLE TESTED: 10/25/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WPLED26-WPLED26/D10
 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)
 LUMINAIRE: CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.
 LAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 33-DEGREES FROM VERTICAL BASE-UP POSITION.
 TOTAL INPUT WATTS = 29.962 AT 277.0 VOLTS
 LED DRIVERS: RDF25U7-32
 (SEE PAGE 2 FOR MORE INFORMATION)



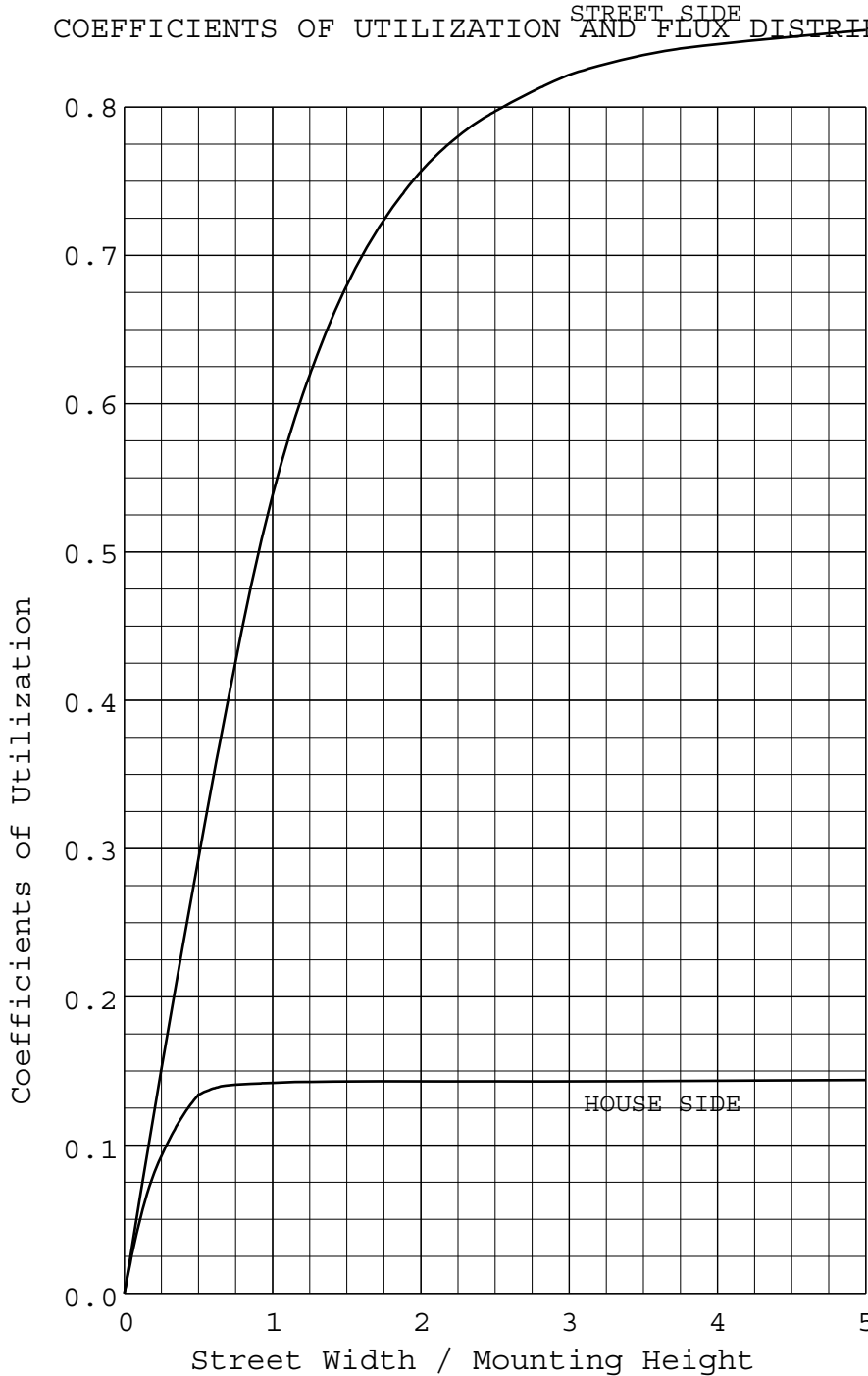
VERTICAL PLANE THROUGH MAXIMUM CANDELA
 37.0 (Degrees Vertical)

CONE THROUGH MAXIMUM CANDELA
 0.0 (Degrees Horizontal) = 1933

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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	2974.	85.6
DOWNWARD HOUSE SIDE	501.	14.4
DOWNWARD TOTAL	3475.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	3475.	100.0

TOTAL INPUT WATTS = 30
 EFFICACY = 115.8 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.

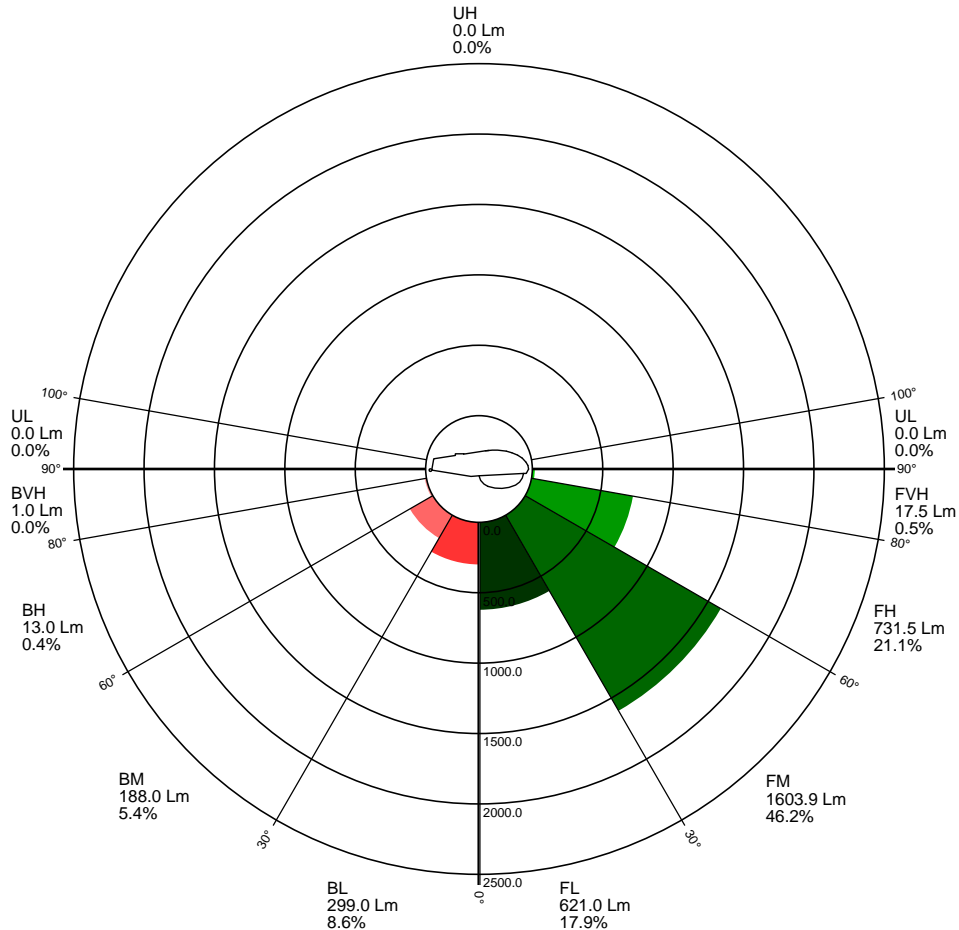
REPORT NUMBER: RAB02619
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BUG Rating:			B1	U0	G1
Zonal Summary		Lumens	% of Fixture		
			Zone Ratings		
			B	U	G
Forward		2974	85.6		
FL	(0° - 30°)	621.0	17.9		
FM	(30° - 60°)	1603.9	46.2		
FH	(60° - 80°)	731.5	21.1		
FVH	(80° - 90°)	17.5	0.5		
Backward		501	14.4		
BL	(0° - 30°)	299.0	8.6		
BM	(30° - 60°)	188.0	5.4		
BH	(60° - 80°)	13.0	0.4		
BVH	(80° - 90°)	1.0	0.0		
Upward		0	0.0		
UL	(90° - 100°)	0.0	0.0		
UH	(100° - 180°)	0.0	0.0		
Trapped Light		0	0.0		
Total Flux		3475	100.0		

Zonal Lumen Summary

(Linear scale)

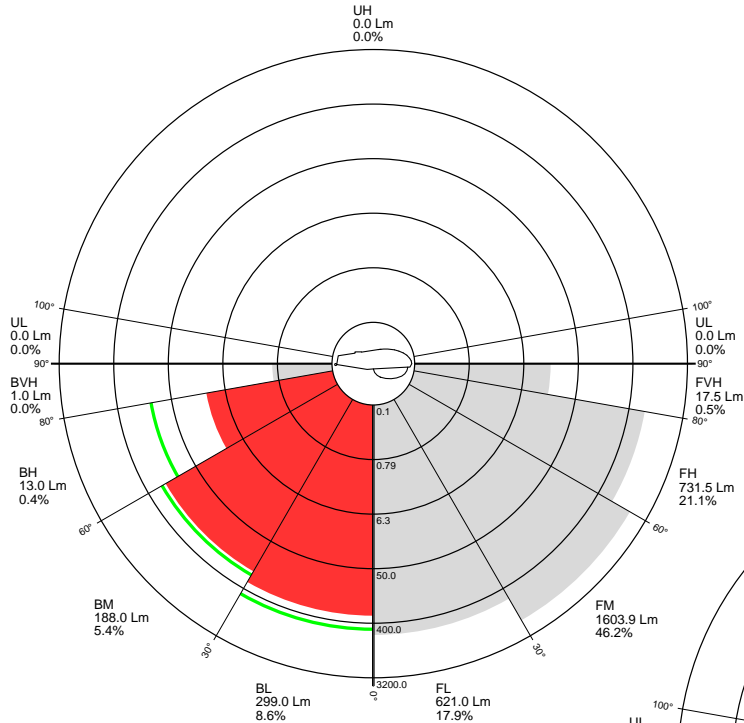


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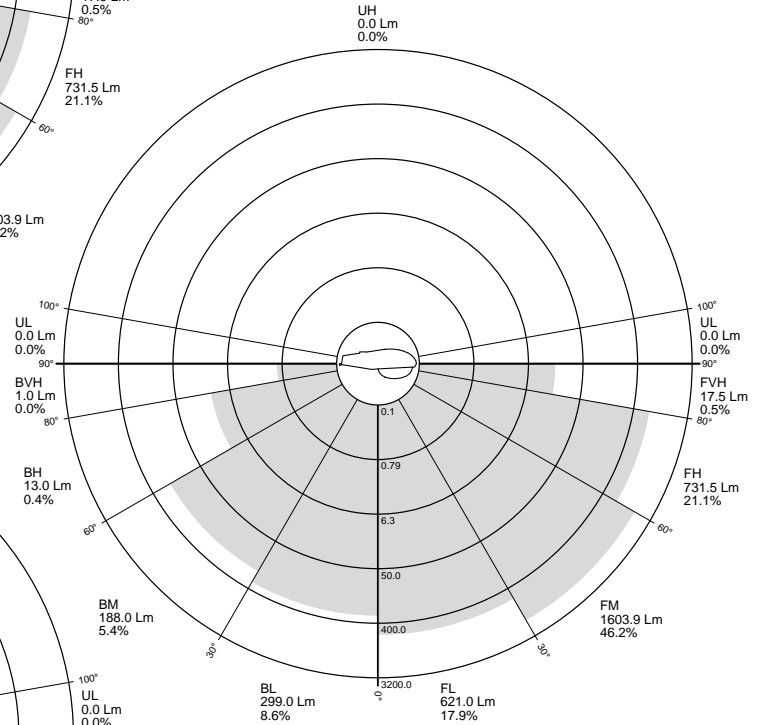
Backlight Rating Details

(Logarithmic scale)



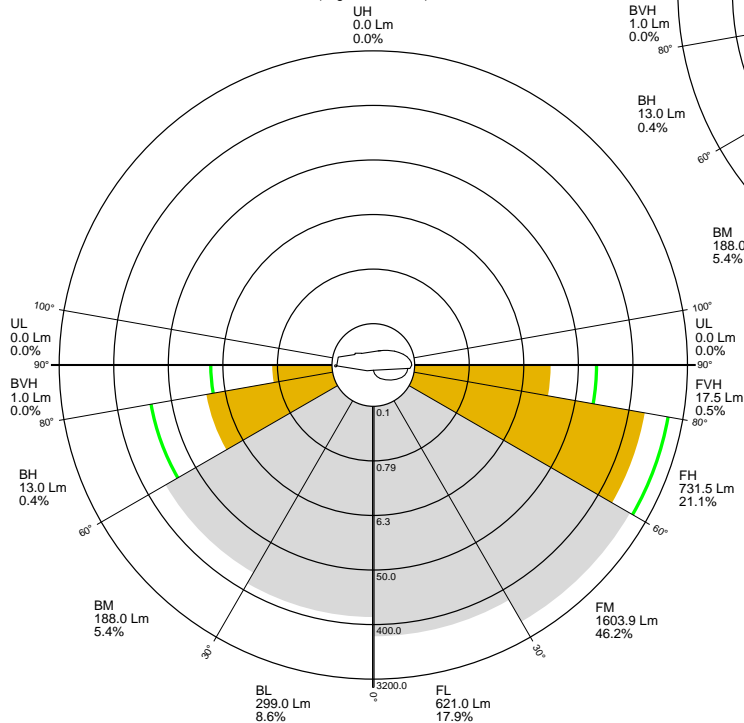
Uplight Rating Details

(Logarithmic scale)



Glare Rating Details

(Logarithmic scale)



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CANDELA TABULATION

	LATERAL ANGLE										
	STREET SIDE	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	87.5	6.	6.	6.	5.	5.	4.	3.	3.	3.	3.
	85.0	14.	14.	13.	12.	13.	11.	6.	4.	3.	3.
	82.5	34.	33.	36.	42.	87.	111.	23.	7.	4.	3.
V	80.0	171.	169.	183.	217.	286.	317.	174.	38.	6.	3.
E	77.5	401.	397.	415.	456.	519.	510.	395.	176.	48.	6.
R	75.0	657.	651.	668.	700.	711.	643.	504.	336.	158.	35.
T	72.5	868.	880.	879.	864.	841.	835.	617.	434.	274.	104.
I	70.0	1017.	1022.	1015.	1004.	999.	1015.	758.	523.	349.	173.
C	67.5	1165.	1171.	1166.	1158.	1149.	1114.	880.	633.	428.	240.
A	65.0	1312.	1318.	1303.	1291.	1251.	1178.	970.	739.	516.	315.
L	62.5	1437.	1440.	1419.	1387.	1326.	1237.	1034.	814.	597.	393.
	60.0	1531.	1533.	1508.	1469.	1400.	1295.	1089.	871.	658.	456.
A	57.5	1606.	1606.	1580.	1539.	1462.	1343.	1138.	919.	711.	522.
N	55.0	1672.	1673.	1647.	1605.	1519.	1388.	1183.	966.	765.	586.
G	52.5	1736.	1736.	1711.	1671.	1571.	1431.	1231.	1017.	818.	648.
L	50.0	1792.	1792.	1768.	1730.	1617.	1469.	1270.	1066.	874.	710.
E	47.5	1843.	1840.	1819.	1778.	1659.	1504.	1311.	1119.	932.	769.
	45.0	1879.	1878.	1859.	1811.	1691.	1531.	1347.	1164.	986.	827.
	42.5	1906.	1904.	1884.	1829.	1711.	1551.	1377.	1200.	1035.	881.
	40.0	1925.	1923.	1900.	1838.	1723.	1570.	1401.	1233.	1079.	934.
	37.5	1933.	1930.	1905.	1838.	1728.	1584.	1421.	1263.	1119.	982.
	37.0<<	1933.	1931.	1905.	1837.	1728.	1586.	1425.	1269.	1127.	991.
	35.0	1932.	1929.	1900.	1832.	1728.	1593.	1440.	1292.	1155.	1028.
	30.0	1891.	1886.	1857.	1793.	1703.	1587.	1462.	1337.	1213.	1104.
	25.0	1797.	1793.	1768.	1716.	1644.	1556.	1459.	1355.	1252.	1159.
	20.0	1693.	1690.	1672.	1638.	1584.	1519.	1443.	1361.	1282.	1206.
	15.0	1587.	1588.	1576.	1551.	1511.	1465.	1409.	1352.	1296.	1236.
	10.0	1482.	1478.	1470.	1454.	1430.	1402.	1369.	1336.	1299.	1257.
	5.0	1357.	1359.	1356.	1349.	1342.	1329.	1316.	1298.	1279.	1259.
	0.0	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.
		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	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
87.5	3.	3.	3.	3.	3.	2.	2.	2.	1.	1.	1.
85.0	3.	3.	3.	3.	2.	2.	2.	2.	1.	1.	1.
82.5	3.	3.	3.	3.	2.	2.	2.	1.	1.	0.	0.
V 80.0	3.	3.	3.	2.	2.	2.	2.	1.	1.	0.	0.
E 77.5	4.	3.	3.	3.	2.	2.	2.	1.	1.	1.	1.
R 75.0	10.	5.	4.	3.	3.	2.	2.	2.	1.	1.	1.
T 72.5	41.	10.	4.	4.	3.	3.	2.	2.	1.	1.	1.
I 70.0	92.	30.	6.	4.	3.	3.	2.	2.	2.	2.	2.
C 67.5	155.	71.	9.	6.	4.	3.	3.	2.	2.	2.	2.
A 65.0	225.	126.	13.	8.	6.	5.	4.	4.	3.	3.	3.
L 62.5	291.	186.	22.	10.	8.	6.	5.	5.	4.	4.	4.
60.0	365.	253.	48.	13.	10.	8.	7.	6.	6.	6.	6.
A 57.5	433.	320.	89.	16.	13.	11.	9.	8.	8.	8.	8.
N 55.0	497.	388.	141.	22.	16.	14.	12.	11.	10.	10.	10.
G 52.5	563.	450.	201.	29.	20.	18.	16.	14.	13.	13.	13.
L 50.0	625.	514.	264.	52.	24.	22.	20.	19.	17.	16.	16.
E 47.5	687.	578.	331.	98.	31.	28.	26.	24.	22.	21.	21.
45.0	746.	640.	399.	158.	44.	34.	33.	31.	29.	27.	27.
42.5	804.	700.	462.	225.	63.	42.	41.	40.	38.	36.	36.
40.0	858.	760.	532.	298.	110.	60.	50.	49.	47.	46.	46.
37.5	910.	818.	601.	377.	179.	77.	62.	59.	57.	56.	56.
37.0<<	921.	828.	614.	393.	195.	84.	67.	61.	60.	58.	58.
35.0	960.	873.	668.	452.	258.	121.	85.	71.	68.	66.	67.
30.0	1044.	970.	793.	608.	432.	282.	174.	121.	108.	104.	103.
25.0	1107.	1046.	902.	752.	604.	470.	361.	281.	230.	207.	208.
20.0	1162.	1113.	1001.	883.	771.	662.	570.	499.	450.	427.	423.
15.0	1203.	1167.	1086.	1002.	917.	843.	774.	727.	684.	672.	665.
10.0	1235.	1212.	1161.	1106.	1057.	1010.	964.	931.	910.	894.	897.
5.0	1249.	1239.	1215.	1191.	1168.	1144.	1130.	1117.	1108.	1100.	1103.
0.0	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.	1253.

CONE OF MAXIMUM CANDELA

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PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9
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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	30
5- 10	87
10- 15	140
15- 20	186
20- 25	223
25- 30	253
30- 35	279
35- 40	298
40- 45	309
45- 50	312
50- 55	305
55- 60	290
60- 65	267
65- 70	225
70- 75	166
75- 80	87
80- 85	17
85- 90	2
90- 95	0
95-100	0
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	117
0- 20	444
0- 30	920
0- 40	1497
0- 50	2117
0- 60	2712
0- 70	3204
0- 80	3456
0- 90	3475
0-100	3475
0-110	3475
0-120	3475
0-130	3475
0-140	3475
0-150	3475
0-160	3475
0-170	3475
0-180	3475

REPORT NUMBER: RAB02620 Page 1 of 4
DATE: 10/24/2016
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 33-DEGREES FROM VERTICAL BASE-UP POSITION.

DRIVER: RDF25U7-32

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

INSTRUMENTS: GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100 Calibration Due: N/A
CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202 2/26/17
OCEAN OPTICS QE65PRO Spectroradiometer 10/18/17
RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry 10/18/17

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

REPORT NUMBER: RAB02620 Page 2 of 4
 DATE: 10/24/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	3475 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3427
Chromaticity Ordinate y	0.3574
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2076
Chromaticity Ordinate v'	0.4871
Correlated Color Temp CCT (K)	5110
ANSI C78.377-2008 Duv	0.004
Total Radiant Flux (milliWatts)	10329 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.117
Input Power (Watts)	30.0
Input Power Factor (%)	92.7
Input Current THD (%)	12.2
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
115.8	
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.249
Input Power (Watts)	29.5
Input Power Factor (%)	99.0
Input Current THD (%)	13.4
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
0.0	

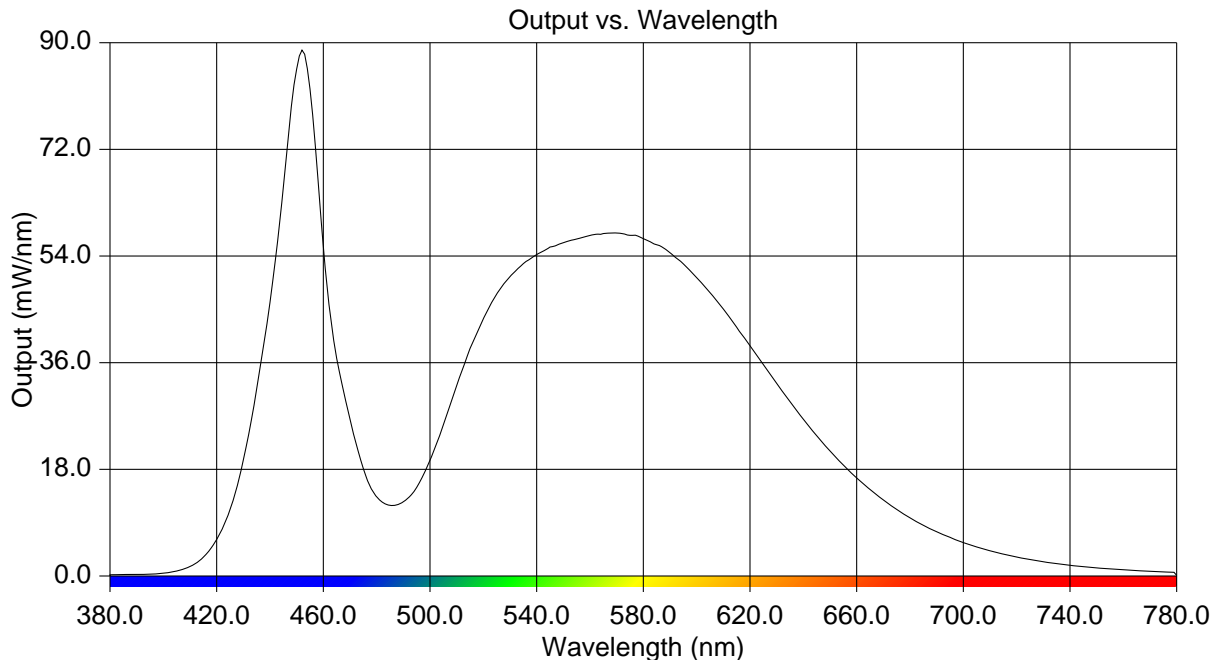
COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	73
R1 Light greyish red	70
R2 Dark greyish yellow	78
R3 Strong yellowish green	83
R4 Moderate yellowish green	73
R5 Light bluish green	70
R6 Light blue	69
R7 Light violet	82
R8 Light reddish purple	57
R9 Strong red	-29
R10 Strong yellow	47
R11 Strong green	69
R12 Strong blue	42
R13 Light yellowish pink (skin)	71
R14 Moderate olive green (leaf)	90

*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: RAB02620 Page 3 of 4
 DATE: 10/24/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.195	515	38.383	650	21.055
385	0.222	520	43.369	655	18.737
390	0.252	525	47.514	660	16.574
395	0.324	530	50.498	665	14.639
400	0.472	535	52.712	670	12.821
405	0.822	540	54.228	675	11.232
410	1.591	545	55.512	680	9.793
415	3.180	550	56.201	685	8.558
420	6.142	555	56.867	690	7.447
425	11.186	560	57.496	695	6.529
430	19.481	565	57.787	700	5.651
435	31.577	570	57.877	705	4.893
440	46.173	575	57.487	710	4.246
445	65.629	580	56.913	715	3.688
450	85.550	585	55.899	720	3.196
455	82.188	590	54.566	725	2.767
460	55.544	595	52.672	730	2.401
465	36.733	600	50.394	735	2.082
470	26.410	605	47.822	740	1.798
475	18.120	610	45.033	745	1.571
480	13.358	615	41.980	750	1.375
485	11.916	620	38.818	755	1.193
490	12.521	625	35.740	760	1.038
495	14.945	630	32.530	765	0.908
500	19.574	635	29.387	770	0.793
505	25.444	640	26.412	775	0.690
510	32.171	645	23.736	780	0.105



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PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)

CIE Chromaticity Diagram

