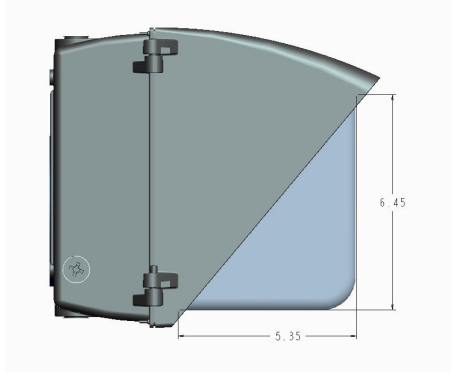


### ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 20 foot mounting height.

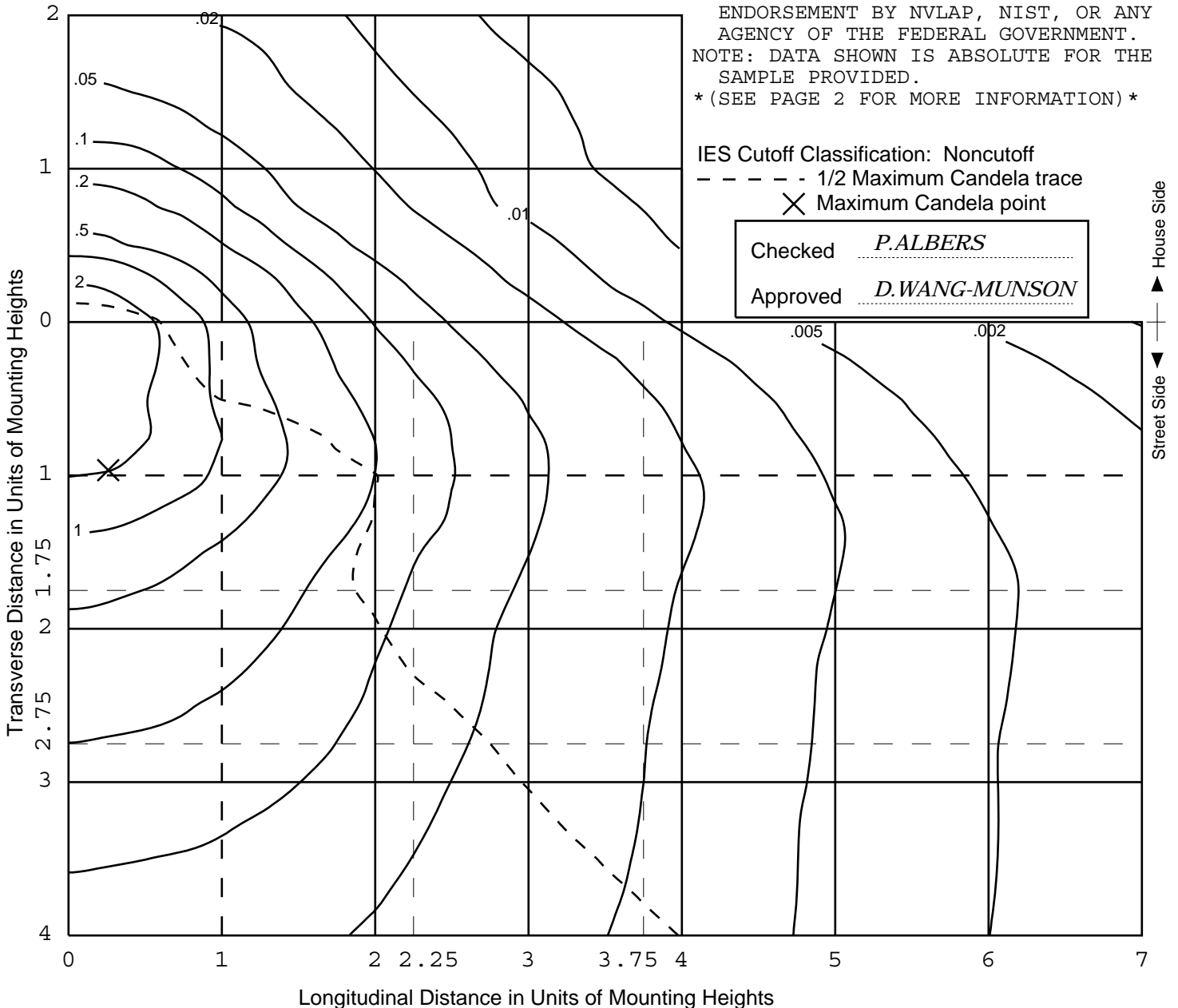


REPORT NUMBER: RAB03093  
 ISSUE DATE: 03/23/17 PAGE: 1 OF 9  
 DATE SAMPLE TESTED: 03/23/17  
 CATALOG NUMBER: WP3LED55Y,  
 WP3LED55Y/D10 (STANDARD CUTOFF -  
 PRISMATIC GLASS LENS)  
 LUMINAIRE: LARGE WALLPACK WITH ALUMINUM  
 PRECISION DIE CAST CONSTRUCTION AND  
 TEMPERED GLASS REFRACTOR.  
 LAMP: ONE HUNDRED FORTY FOUR WHITE  
 LIGHT EMITTING DIODES (LEDs).  
 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.  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
 SAMPLE PROVIDED.  
 \*(SEE PAGE 2 FOR MORE INFORMATION) \*

IES Cutoff Classification: Noncutoff

--- 1/2 Maximum Candela trace  
 X Maximum Candela point

Checked P. ALBERS  
 Approved D. WANG-MUNSON



REPORT NUMBER: RAB03093

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ISSUE DATE: 03/23/17

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS L

ADDITIONAL INFORMATION

TOTAL INPUT WATTS = 57.755 W AT 120.0 VAC.

LED DRIVER: RD-052-A1400-R

TEST PROCEDURE: IESNA LM-79-08

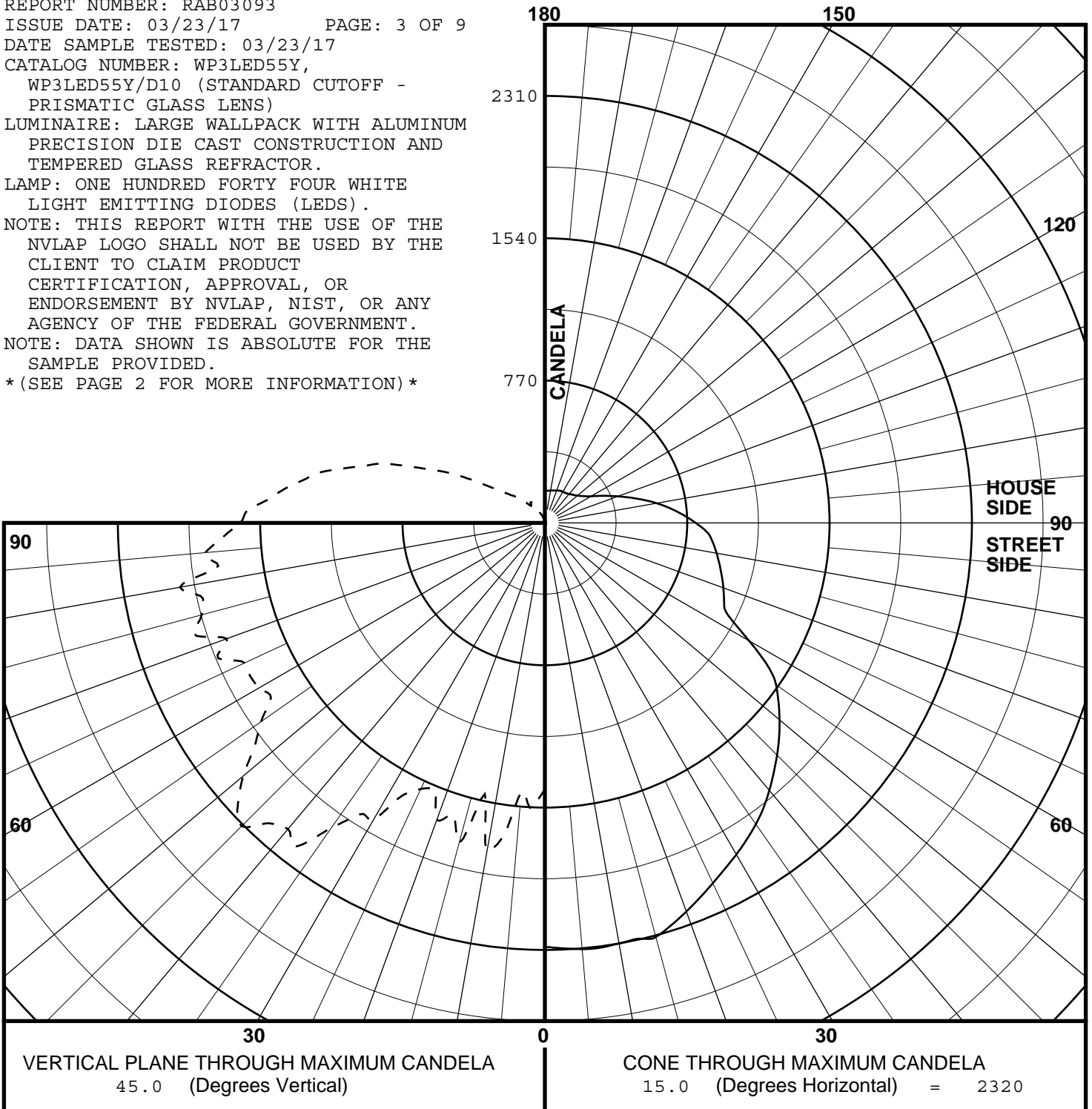
ACCREDITED LABORATORY CODE 201058-0

LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

AMBIENT: 24.9

### MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: RAB03093  
 ISSUE DATE: 03/23/17 PAGE: 3 OF 9  
 DATE SAMPLE TESTED: 03/23/17  
 CATALOG NUMBER: WP3LED55Y,  
 WP3LED55Y/D10 (STANDARD CUTOFF -  
 PRISMATIC GLASS LENS)  
 LUMINAIRE: LARGE WALLPACK WITH ALUMINUM  
 PRECISION DIE CAST CONSTRUCTION AND  
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 LAMP: ONE HUNDRED FORTY FOUR WHITE  
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 AGENCY OF THE FEDERAL GOVERNMENT.  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
 SAMPLE PROVIDED.  
 \*(SEE PAGE 2 FOR MORE INFORMATION)\*



REPORT NUMBER: RAB03093

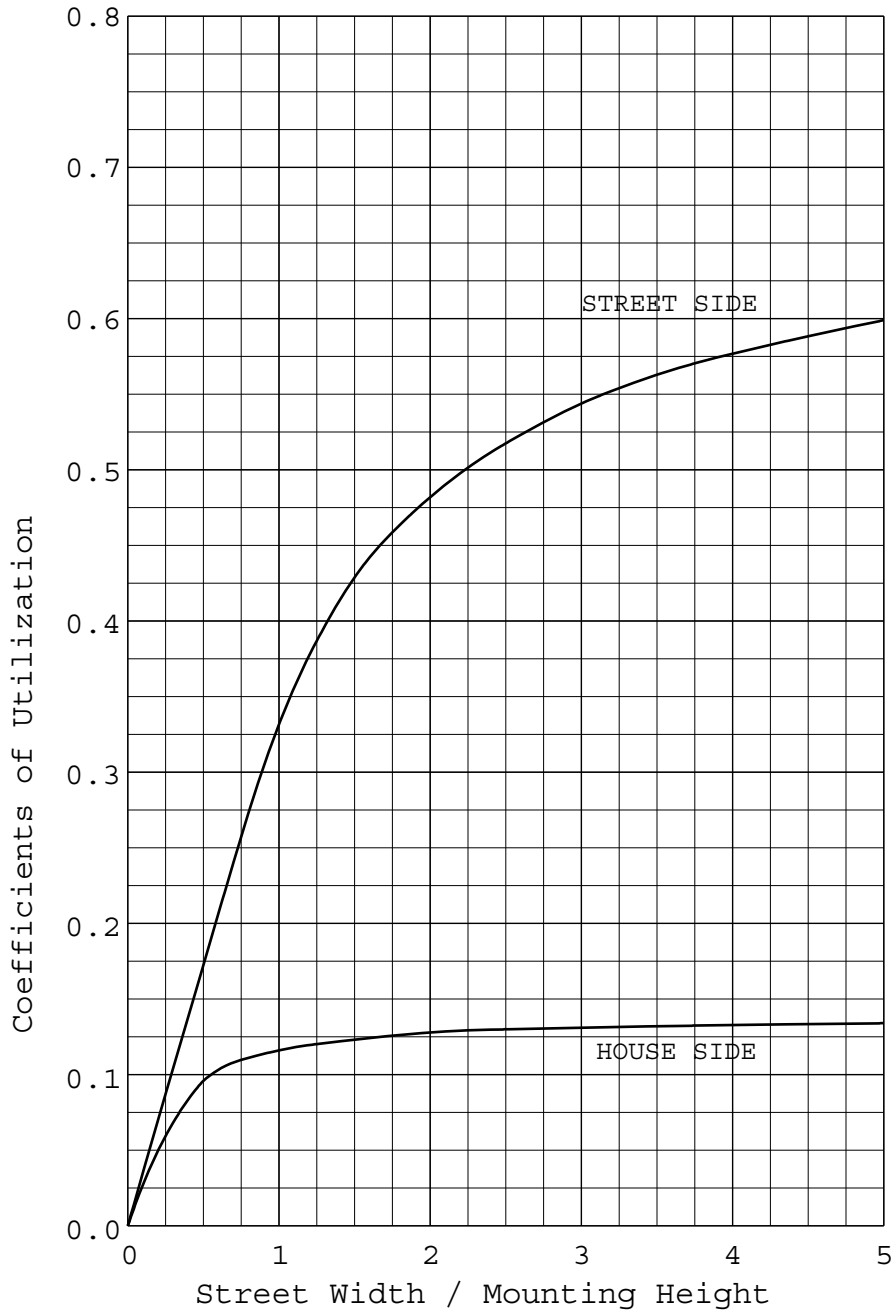
ISSUE DATE: 03/23/17

PAGE: 4 OF 9

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS L

### COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	4368.	68.2
DOWNWARD HOUSE SIDE	870.	13.6
DOWNWARD TOTAL	5238.	81.8
UPWARD STREET SIDE	1119.	17.5
UPWARD HOUSE SIDE	44.	0.7
UPWARD TOTAL	1163.	18.2
TOTAL FLUX	6401.	100.0

TOTAL INPUT WATTS = 57.8  
EFFICACY = 110.7 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: RAB03093

ISSUE DATE: 03/23/17

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DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC

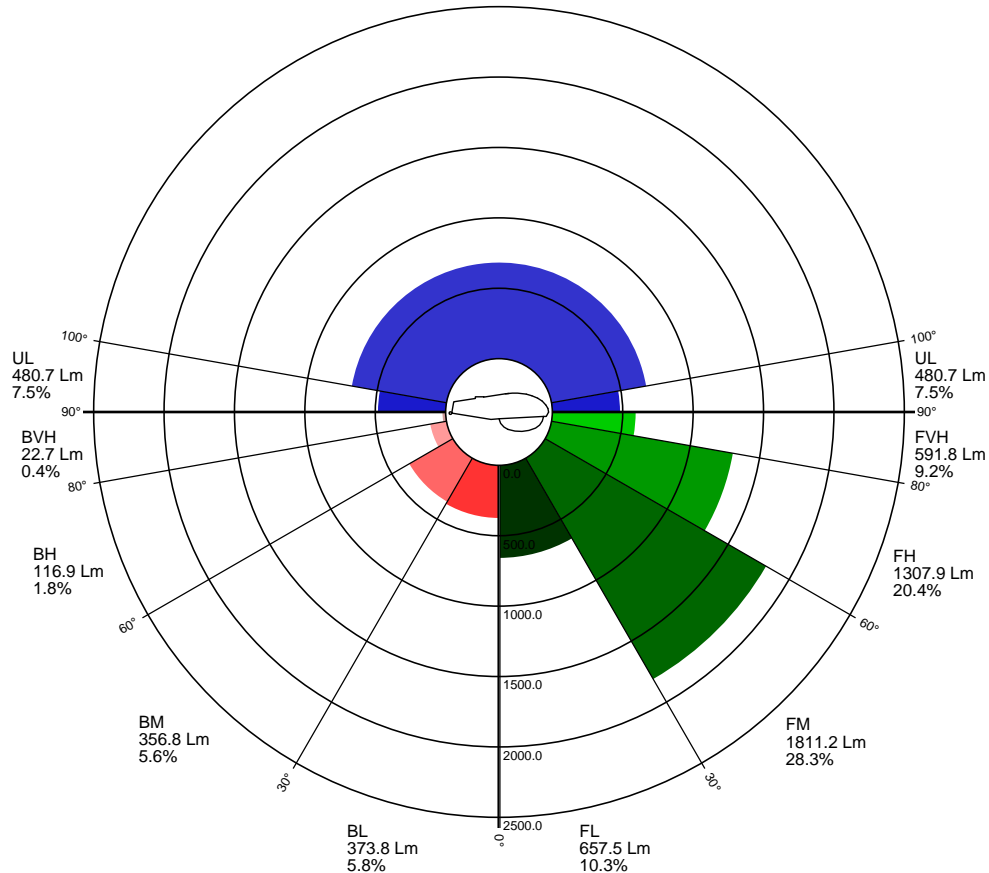
GLASS LENS)

Zonal Summary				Zone Ratings		
				B	U	G
Forward		4368	68.2			
FL	(0° - 30°)	657.5	10.3			
FM	(30° - 60°)	1811.2	28.3			
FH	(60° - 80°)	1307.9	20.4			G1
FVH	(80° - 90°)	591.8	9.2			G4
Backward		870	13.6			
BL	(0° - 30°)	373.8	5.8	B1		
BM	(30° - 60°)	356.8	5.6	B1		
BH	(60° - 80°)	116.9	1.8	B1		G1
BVH	(80° - 90°)	22.7	0.4			G1
Upward		1163	18.2			
UL	(90° - 100°)	480.7	7.5		U3	
UH	(100° - 180°)	682.3	10.7		U4	
Trapped Light		0	0.0			
Total Flux		6402	100.0			

### Zonal Lumen Summary

(Linear scale)

UH  
682.3 Lm  
10.7%



REPORT NUMBER: RAB03093

ISSUE DATE: 03/23/17

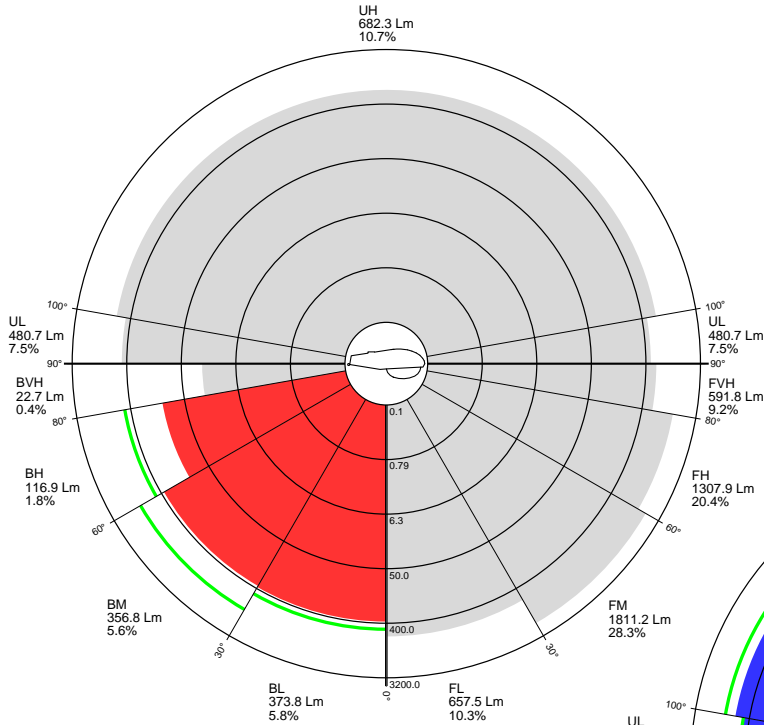
CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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DATE SAMPLE TESTED: 03/23/17

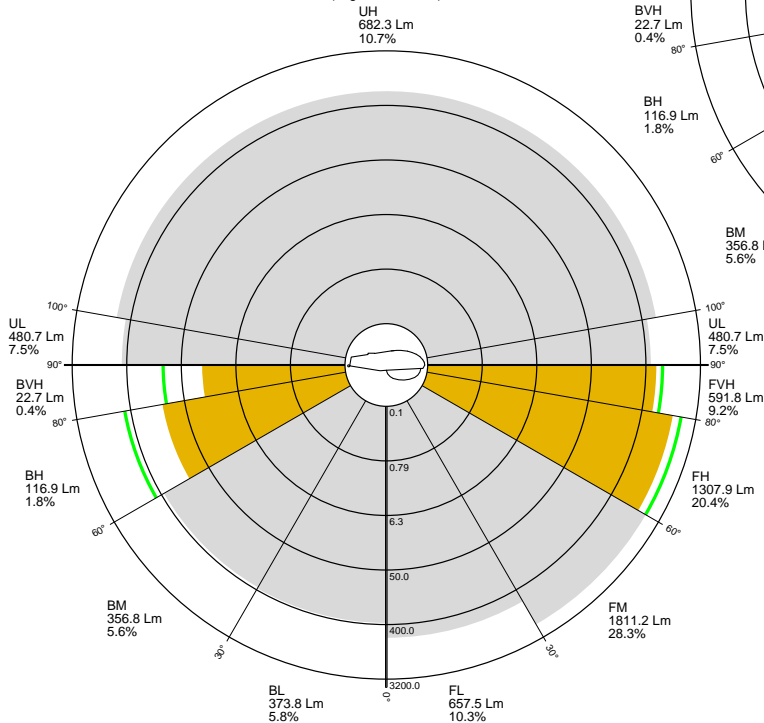
### Backlight Rating Details

(Logarithmic scale)



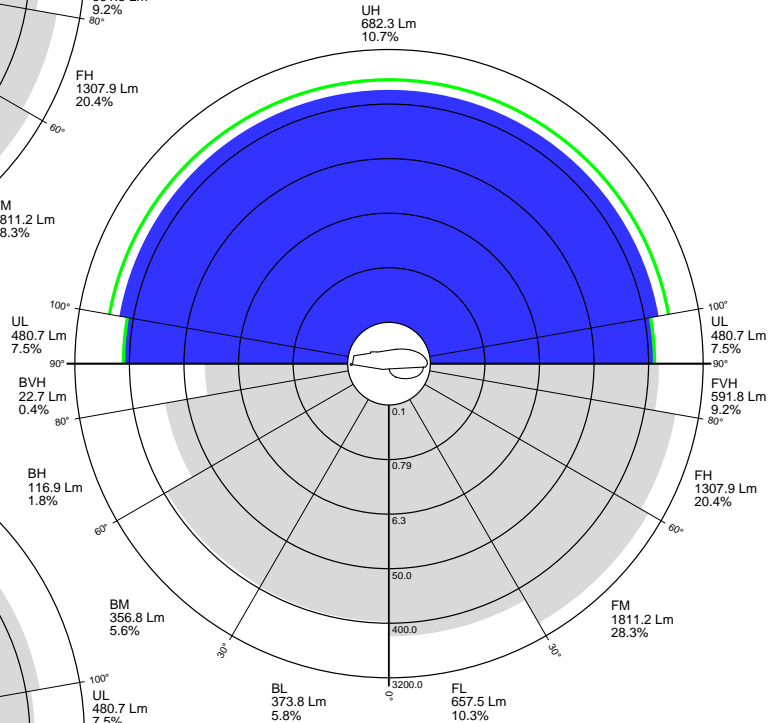
### Glare Rating Details

(Logarithmic scale)



### Uplight Rating Details

(Logarithmic scale)



REPORT NUMBER: RAB03093

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ISSUE DATE: 03/23/17

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS L

### CANDELA TABULATION

	STREET SIDE		LATERAL ANGLE							
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	4.	4.	4.	4.	4.	4.	4.	4.	4.
	175.0	1.	1.	2.	2.	3.	4.	5.	6.	6.
	165.0	19.	18.	18.	15.	13.	10.	7.	5.	6.
	155.0	59.	59.	58.	53.	47.	38.	26.	16.	8.
	145.0	138.	139.	135.	126.	112.	86.	64.	44.	22.
	135.0	194.	191.	179.	151.	120.	94.	86.	72.	43.
	125.0	337.	327.	311.	280.	228.	164.	104.	66.	61.
	115.0	755.	732.	681.	570.	435.	302.	187.	97.	69.
	105.0	1216.	1172.	1134.	995.	780.	556.	361.	202.	87.
	95.0	1569.	1535.	1497.	1371.	1158.	862.	591.	384.	209.
	90.0	1728.	1675.	1650.	1523.	1311.	1009.	681.	469.	315.
	87.5	1807.	1769.	1743.	1613.	1395.	1062.	729.	506.	380.
	85.0	1969.	1922.	1846.	1637.	1449.	1105.	769.	557.	438.
V	82.5	1806.	1771.	1782.	1782.	1502.	1124.	797.	596.	506.
E	80.0	2134.	2094.	2005.	1715.	1461.	1155.	818.	640.	582.
R	77.5	1913.	1860.	1894.	1873.	1549.	1134.	837.	688.	678.
T	75.0	2067.	2005.	1922.	1654.	1394.	1168.	871.	752.	728.
I	72.5	2035.	2014.	1991.	1847.	1513.	1136.	910.	922.	782.
C	70.0	1988.	1924.	1831.	1639.	1414.	1186.	977.	1024.	824.
A	67.5	1977.	1954.	1913.	1715.	1456.	1198.	1129.	1100.	843.
L	65.0	1915.	1866.	1793.	1633.	1429.	1294.	1327.	1178.	844.
	62.5	1885.	1842.	1797.	1610.	1466.	1432.	1397.	1174.	784.
A	60.0	1878.	1837.	1787.	1651.	1609.	1584.	1553.	1218.	770.
N	57.5	1798.	1777.	1757.	1733.	1677.	1783.	1556.	1246.	773.
G	55.0	1916.	1861.	1875.	1810.	1865.	1820.	1554.	1204.	809.
L	52.5	1939.	1922.	1978.	1978.	1987.	1838.	1633.	1181.	835.
E	50.0	2066.	2062.	2130.	2172.	2060.	1867.	1590.	1096.	879.
	47.5	2310.	2312.	2253.	2225.	2008.	1853.	1541.	1060.	928.
	45.0<<	2293.	2315.	2320.	2150.	1990.	1776.	1527.	1070.	985.
	42.5	2194.	2208.	2204.	2148.	2027.	1797.	1376.	1110.	1031.
	40.0	2238.	2266.	2162.	2111.	1889.	1682.	1322.	1170.	1082.
	37.5	2148.	2183.	2206.	1955.	1825.	1602.	1270.	1269.	1145.
	35.0	2025.	2028.	2015.	1924.	1830.	1488.	1350.	1376.	1237.
	30.0	1843.	1902.	1851.	1685.	1560.	1423.	1424.	1317.	1445.
	25.0	1619.	1616.	1588.	1594.	1534.	1548.	1647.	1670.	1462.
	20.0	1606.	1651.	1709.	1638.	1601.	1763.	1541.	1396.	1393.
	15.0	1680.	1718.	1791.	1830.	1527.	1845.	1454.	1745.	1500.
	10.0	1904.	1894.	1797.	1625.	1468.	1719.	1643.	1487.	1581.
	5.0	1477.	1472.	1461.	1463.	1492.	1561.	1604.	1539.	1449.
	0.0	1440.	1440.	1440.	1440.	1440.	1440.	1440.	1440.	1440.

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03093

PAGE: 8 OF 9

ISSUE DATE: 03/23/17

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS L

## 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	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
	175.0	6.	6.	6.	6.	5.	5.	4.	3.	2.	1.
	165.0	6.	6.	6.	6.	6.	5.	4.	3.	3.	2.
	155.0	7.	7.	6.	6.	6.	5.	4.	4.	3.	3.
	145.0	10.	8.	8.	8.	7.	6.	5.	4.	4.	3.
	135.0	17.	13.	10.	10.	8.	6.	5.	4.	4.	4.
	125.0	28.	24.	18.	15.	12.	9.	5.	4.	4.	4.
	115.0	43.	36.	29.	23.	16.	11.	7.	5.	5.	5.
	105.0	47.	41.	37.	31.	21.	14.	10.	7.	7.	8.
	95.0	41.	46.	47.	44.	29.	19.	13.	10.	9.	9.
	90.0	45.	45.	57.	52.	35.	22.	15.	11.	9.	10.
	87.5	61.	50.	63.	58.	40.	25.	16.	11.	10.	10.
	85.0	87.	61.	70.	66.	48.	32.	21.	12.	9.	9.
V	82.5	125.	79.	78.	76.	56.	47.	34.	28.	26.	29.
E	80.0	169.	101.	85.	85.	64.	62.	44.	44.	37.	40.
R	77.5	220.	129.	93.	93.	72.	75.	56.	56.	50.	48.
T	75.0	271.	163.	100.	98.	80.	84.	70.	65.	67.	61.
I	72.5	313.	198.	106.	102.	86.	88.	86.	73.	81.	79.
C	70.0	352.	236.	118.	106.	92.	91.	101.	81.	89.	98.
A	67.5	379.	274.	136.	112.	98.	94.	109.	95.	92.	104.
L	65.0	408.	314.	163.	120.	108.	99.	111.	111.	97.	103.
	62.5	441.	351.	193.	131.	121.	107.	112.	120.	109.	102.
A	60.0	480.	393.	227.	144.	134.	119.	117.	121.	124.	117.
N	57.5	523.	433.	264.	165.	148.	133.	125.	121.	127.	135.
G	55.0	572.	474.	303.	194.	162.	150.	138.	130.	125.	131.
L	52.5	617.	529.	352.	227.	179.	165.	149.	144.	132.	124.
E	50.0	684.	587.	402.	263.	200.	179.	166.	156.	148.	139.
	47.5	750.	658.	455.	299.	226.	195.	184.	173.	165.	160.
	45.0<<	816.	716.	511.	347.	252.	215.	197.	192.	182.	175.
	42.5	876.	777.	570.	401.	281.	236.	212.	204.	197.	190.
	40.0	943.	849.	630.	457.	318.	259.	230.	216.	205.	200.
	37.5	1014.	913.	692.	526.	374.	288.	250.	229.	219.	211.
	35.0	1076.	971.	762.	599.	441.	327.	278.	249.	232.	227.
	30.0	1186.	1086.	912.	736.	607.	484.	373.	316.	280.	271.
	25.0	1269.	1187.	1052.	881.	761.	660.	575.	491.	431.	395.
	20.0	1348.	1313.	1183.	1043.	921.	819.	739.	683.	656.	634.
	15.0	1385.	1392.	1267.	1195.	1084.	1011.	932.	874.	857.	823.
	10.0	1437.	1413.	1390.	1297.	1251.	1201.	1118.	1104.	1086.	1081.
	5.0	1447.	1440.	1426.	1452.	1398.	1345.	1308.	1293.	1285.	1285.
	0.0	1440.	1440.	1440.	1440.	1440.	1440.	1440.	1440.	1440.	1440.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03093  
ISSUE DATE: 03/23/17  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9  
DATE SAMPLE TESTED: 03/23/17

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	35
5- 10	103
10- 15	163
15- 20	211
20- 25	245
25- 30	275
30- 35	306
35- 40	338
40- 45	369
45- 50	391
50- 55	388
55- 60	376
60- 65	365
65- 70	361
70- 75	356
75- 80	343
80- 85	322
85- 90	292
90- 95	259
95-100	222
100-105	184
105-110	144
110-115	108
115-120	76
120-125	51
125-130	35
130-135	26
135-140	19
140-145	15
145-150	11
150-155	6
155-160	3
160-165	2
165-170	1
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	137
0- 20	511
0- 30	1031
0- 40	1675
0- 50	2435
0- 60	3199
0- 70	3925
0- 80	4624
0- 90	5238
0-100	5719
0-110	6047
0-120	6232
0-130	6318
0-140	6363
0-150	6389
0-160	6399
0-170	6401
0-180	6401

REPORT NUMBER: RAB03095  
DATE: 3/23/2017  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: LARGE WALLPACK WITH ALUMINUM PRECISION DIE CAST CONSTRUCTION AND TEMPERED GLASS REFRACTOR.

LAMP: ONE HUNDRED FORTY FOUR WHITE LIGHT EMITTING DIODES (LEDs).

DRIVER: RD-052-A1400-R

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	3/01/18
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	03/07/18

OBJECT OF TEST: Measure the Absolute Flux in lumens\*, 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. 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

REPORT NUMBER: RAB03095  
 DATE: 3/23/2017  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

Page 2 of 4

### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	6401 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4250
Chromaticity Ordinate y	0.3994
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2449
Chromaticity Ordinate v'	0.5178
Correlated Color Temp CCT (K)	3173
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	19458 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.486
Input Power (Watts)	57.8
Input Power Factor (%)	99.1
Input Current THD (%)	7.7
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	110.7
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.214
Input Power (Watts)	57.6
Input Power Factor (%)	97.3
Input Current THD (%)	6.3
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	82
R1 Light greyish red	80
R2 Dark greyish yellow	90
R3 Strong yellowish green	97
R4 Moderate yellowish green	80
R5 Light bluish green	81
R6 Light blue	87
R7 Light violet	83
R8 Light reddish purple	60
R9 Strong red	6
R10 Strong yellow	76
R11 Strong green	79
R12 Strong blue	70
R13 Light yellowish pink (skin)	82
R14 Moderate olive green (leaf)	98

### \*NOTE:

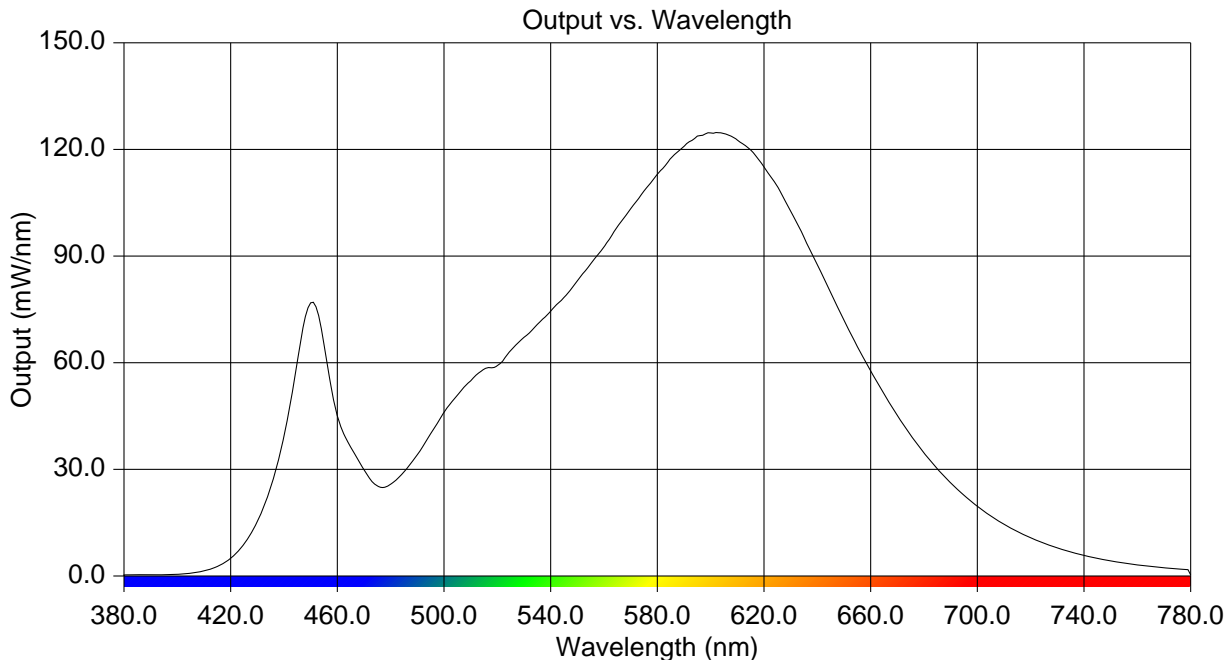
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB03095  
 DATE: 3/23/2017  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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### RESULTS:

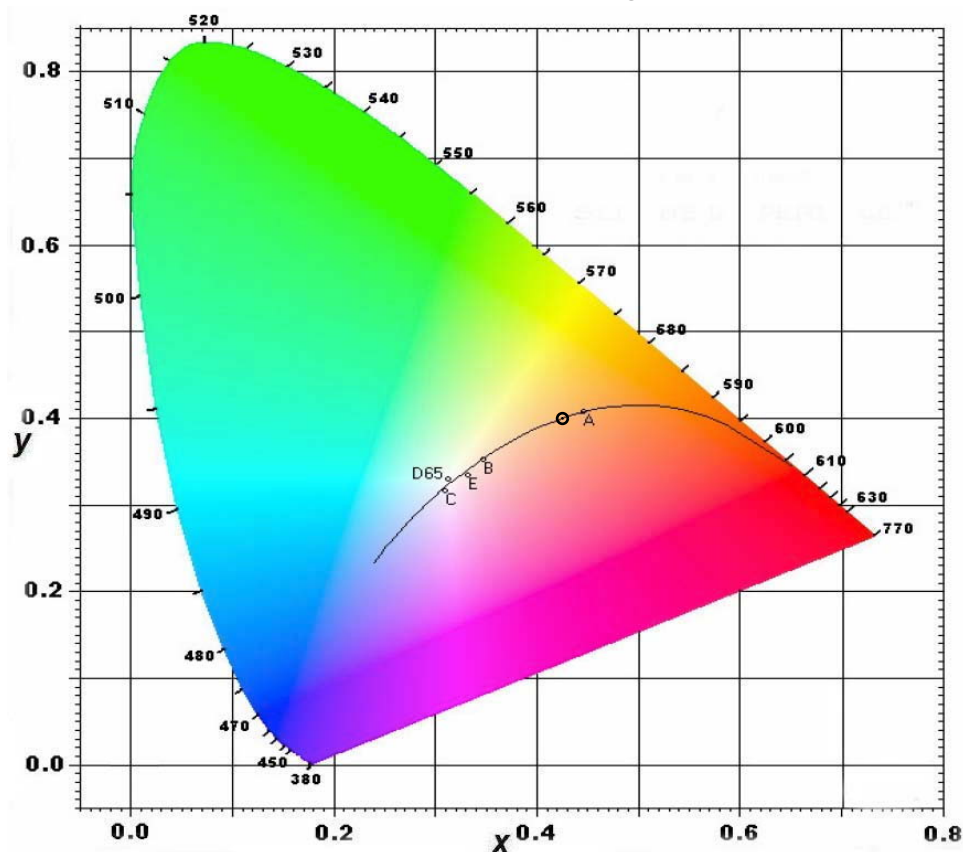
Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.293	515	58.173	650	71.926
385	0.325	520	59.179	655	64.516
390	0.341	525	63.471	660	57.621
395	0.365	530	67.130	665	51.203
400	0.483	535	70.760	670	45.201
405	0.786	540	74.422	675	39.587
410	1.407	545	78.352	680	34.613
415	2.678	550	82.943	685	30.168
420	4.961	555	87.789	690	26.174
425	8.974	560	92.551	695	22.706
430	15.469	565	98.228	700	19.615
435	24.888	570	103.285	705	16.886
440	39.190	575	108.287	710	14.553
445	60.247	580	112.984	715	12.497
450	76.831	585	117.413	720	10.749
455	65.113	590	120.935	725	9.218
460	45.087	595	123.726	730	7.880
465	36.251	600	124.613	735	6.739
470	29.860	605	124.508	740	5.783
475	25.359	610	122.603	745	4.952
480	25.816	615	119.824	750	4.263
485	29.298	620	115.042	755	3.647
490	34.120	625	109.561	760	3.127
495	40.032	630	102.617	765	2.679
500	46.010	635	95.268	770	2.301
505	50.786	640	87.596	775	1.996
510	54.875	645	79.646	780	0.301



REPORT NUMBER: RAB03095  
DATE: 3/23/2017  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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## CIE Chromaticity Diagram



REPORT NUMBER: RAB03095  
DATE: 3/23/2017  
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CATALOG NUMBER: WP3LED55Y, WP3LED55Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: LARGE WALLPACK WITH ALUMINUM PRECISION DIE CAST CONSTRUCTION AND TEMPERED GLASS REFRACTOR.

LAMP: ONE HUNDRED FORTY FOUR WHITE LIGHT EMITTING DIODES (LEDs).

DRIVER: RD-052-A1400-R

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	3/01/18
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	03/07/18

OBJECT OF TEST: Measure the Absolute Flux in lumens\*, 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. 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)	6401 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4250
Chromaticity Ordinate y	0.3994
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2449
Chromaticity Ordinate v'	0.5178
Correlated Color Temp CCT (K)	3173
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	19458 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.486
Input Power (Watts)	57.8
Input Power Factor (%)	99.1
Input Current THD (%)	7.7
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	110.7
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.214
Input Power (Watts)	57.6
Input Power Factor (%)	97.2
Input Current THD (%)	6.3
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	82
R1 Light greyish red	80
R2 Dark greyish yellow	90
R3 Strong yellowish green	97
R4 Moderate yellowish green	80
R5 Light bluish green	81
R6 Light blue	87
R7 Light violet	83
R8 Light reddish purple	60
R9 Strong red	6
R10 Strong yellow	76
R11 Strong green	79
R12 Strong blue	70
R13 Light yellowish pink (skin)	82
R14 Moderate olive green (leaf)	98

### \*NOTE:

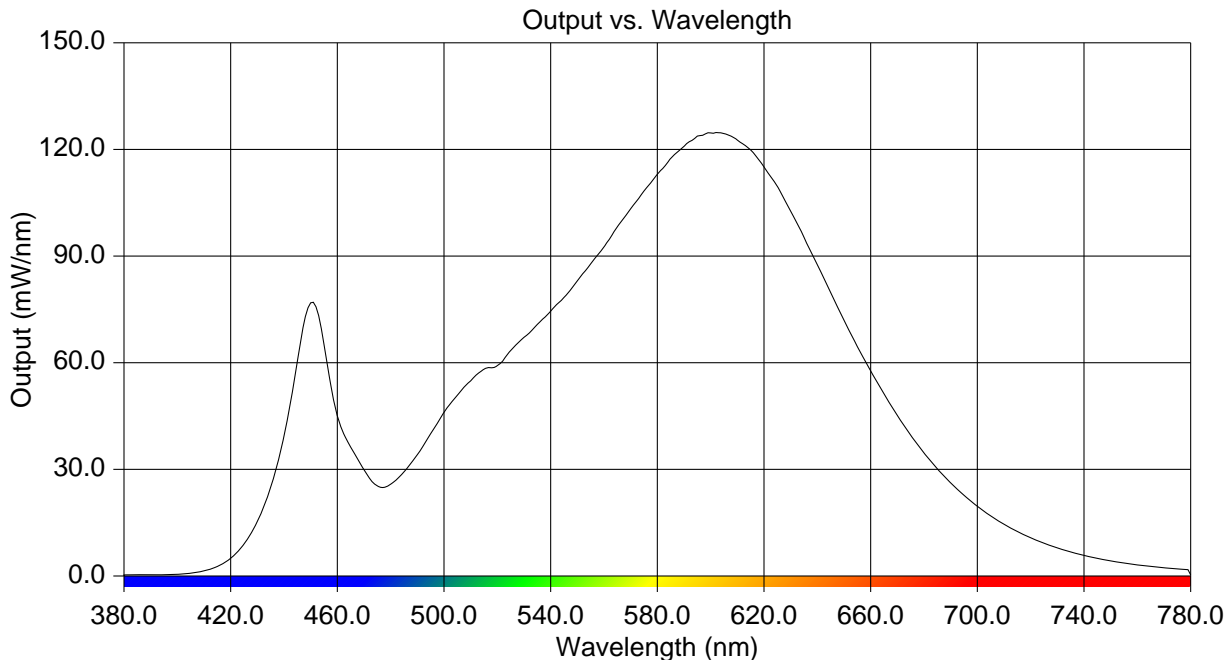
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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	0.293	515	58.173	650	71.926
385	0.325	520	59.179	655	64.516
390	0.341	525	63.471	660	57.621
395	0.365	530	67.130	665	51.203
400	0.483	535	70.760	670	45.201
405	0.786	540	74.422	675	39.587
410	1.407	545	78.352	680	34.613
415	2.678	550	82.943	685	30.168
420	4.961	555	87.789	690	26.174
425	8.974	560	92.551	695	22.706
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