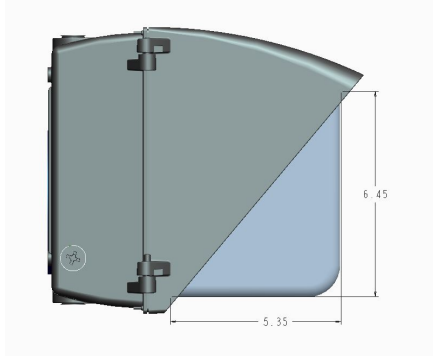


### ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

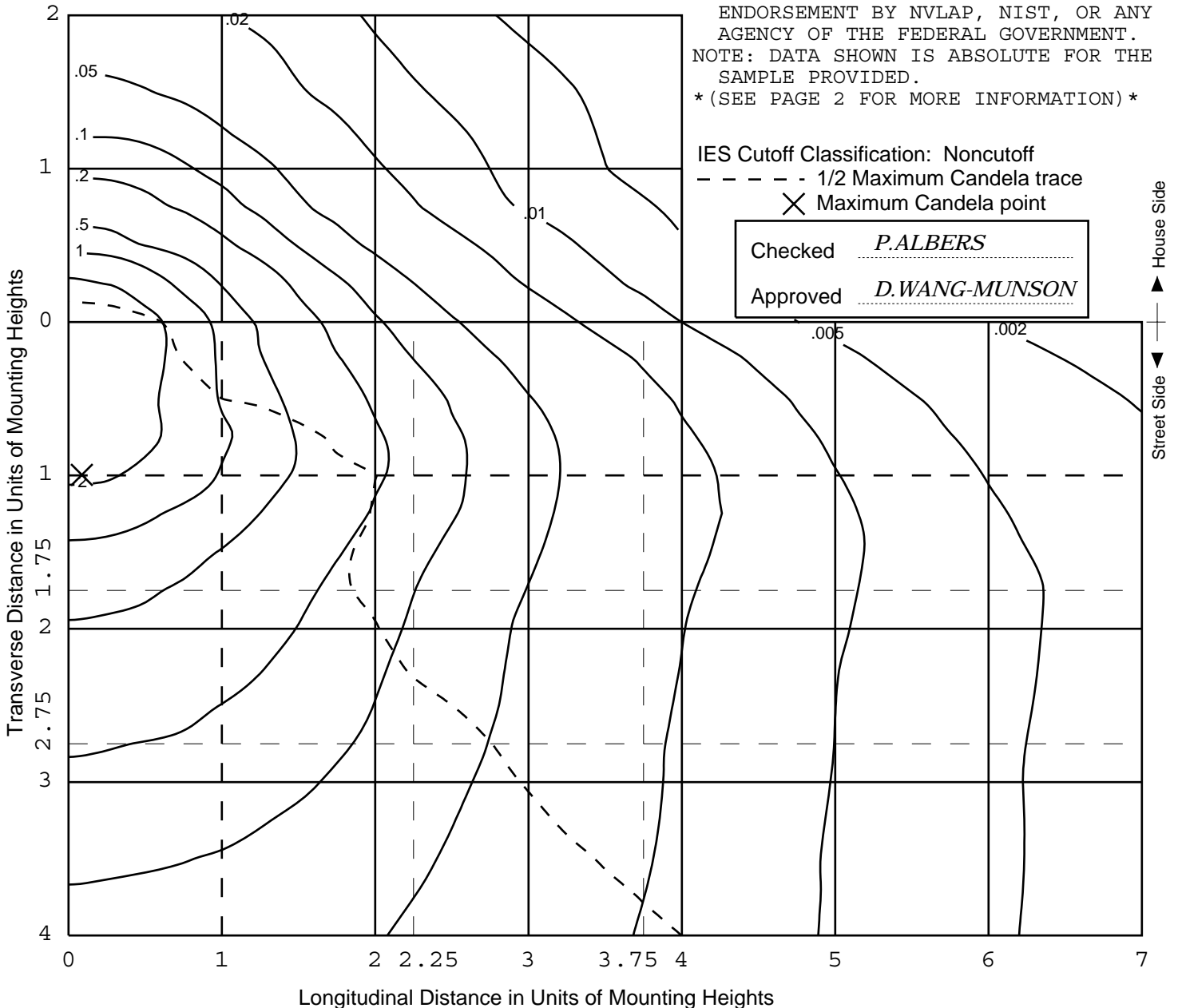
Values based on 20 foot mounting height.



REPORT NUMBER: RAB03112  
 ISSUE DATE: 03/28/17 PAGE: 1 OF 9  
 DATE SAMPLE TESTED: 03/28/17  
 CATALOG NUMBER: WP3LED65Y,  
 WP3LED65Y/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



REPORT NUMBER: RAB03112

PAGE: 2 OF 9

ISSUE DATE: 03/28/17

DATE SAMPLE TESTED: 03/28/17

CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS

## ADDITIONAL INFORMATION

TOTAL INPUT WATTS = 62.812 W AT 120.0 VAC.

LED DRIVER: RD-G075-A2800-C

TEST PROCEDURE: IESNA LM-79-08

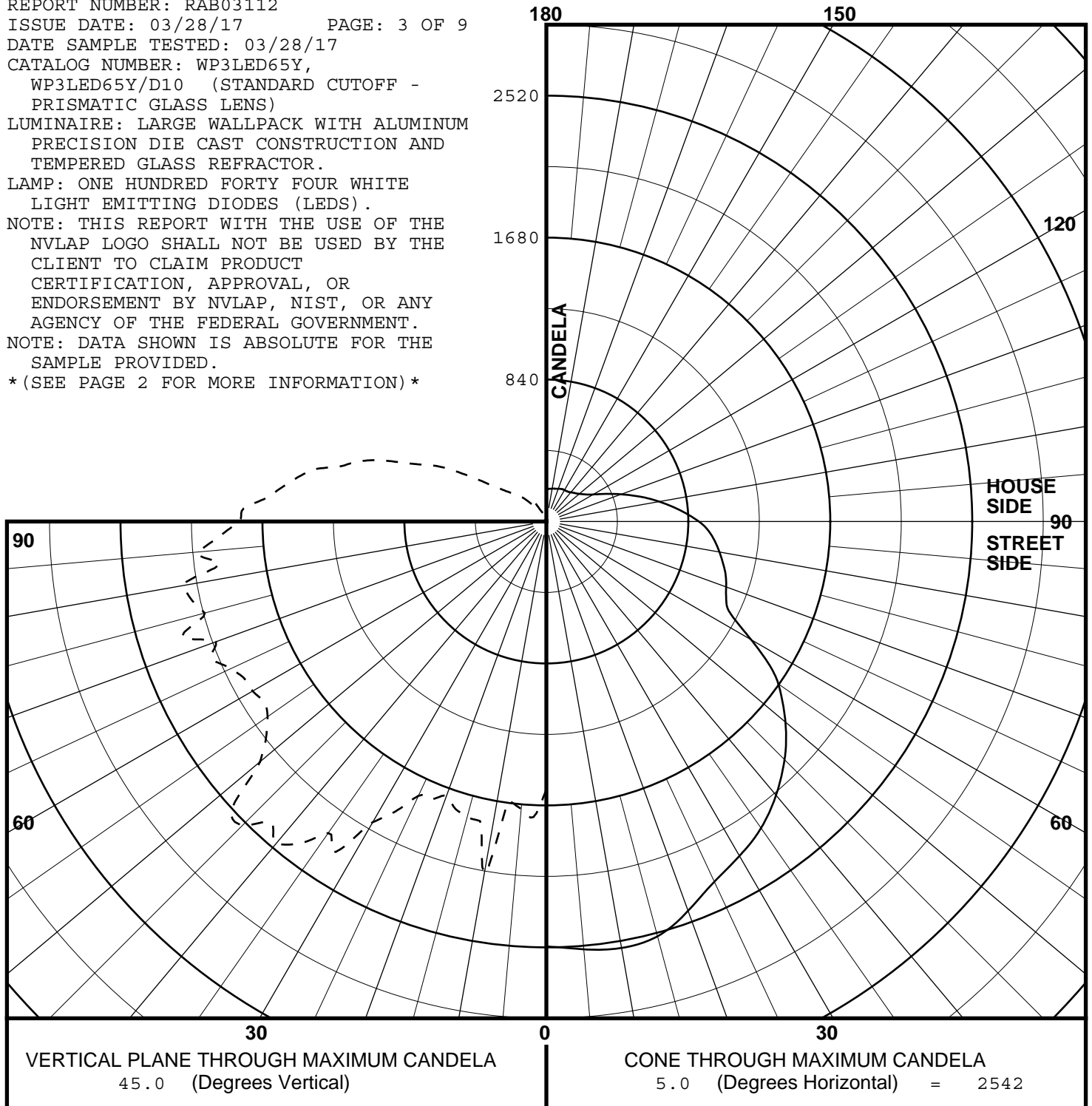
LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

AMBIENT: 24.6

ACCREDITED LABORATORY CODE 201058-0

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: RAB03112  
ISSUE DATE: 03/28/17      PAGE: 3 OF 9  
DATE SAMPLE TESTED: 03/28/17  
CATALOG NUMBER: WP3LED65Y,  
WP3LED65Y/D10 (STANDARD CUTOFF -  
PRISMATIC GLASS LENS)  
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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)\*



REPORT NUMBER: RAB03112

ISSUE DATE: 03/28/17

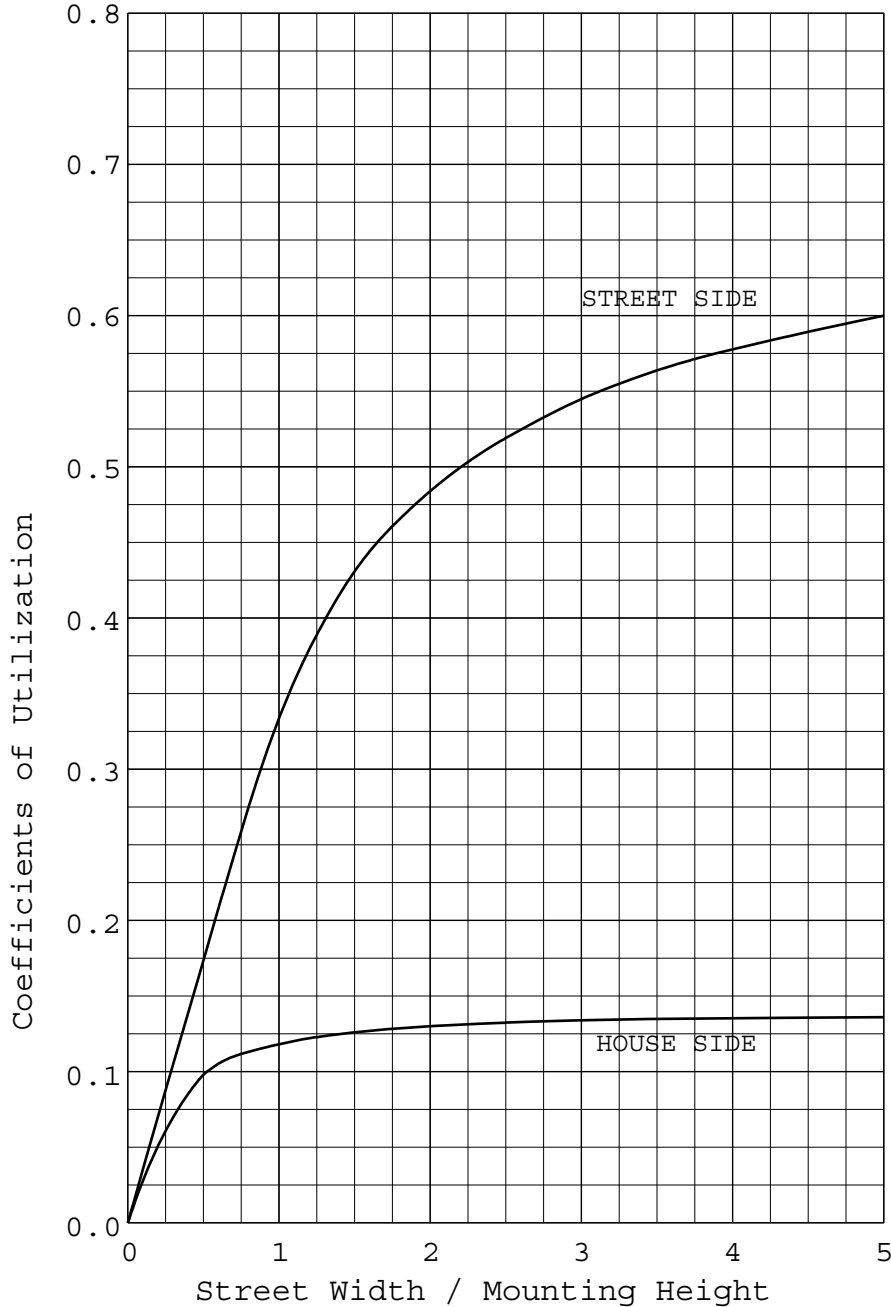
CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10

PAGE: 4 OF 9

DATE SAMPLE TESTED: 03/28/17

(STANDARD CUTOFF - PRISMATIC GLASS)

### COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	4782.	68.3
DOWNWARD HOUSE SIDE	967.	13.8
DOWNWARD TOTAL	5750.	82.1
UPWARD STREET SIDE	1206.	17.2
UPWARD HOUSE SIDE	47.	0.7
UPWARD TOTAL	1252.	17.9
TOTAL FLUX	7002.	100.0

TOTAL INPUT WATTS = 62.8  
EFFICACY = 111.5 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: RAB03112

ISSUE DATE: 03/28/17

CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC

PAGE: 5 OF 9

DATE SAMPLE TESTED: 03/28/17

GLASS LENS)

Zonal Summary

Lumens

% of Fixture

B1 U4 G4

Zone Ratings

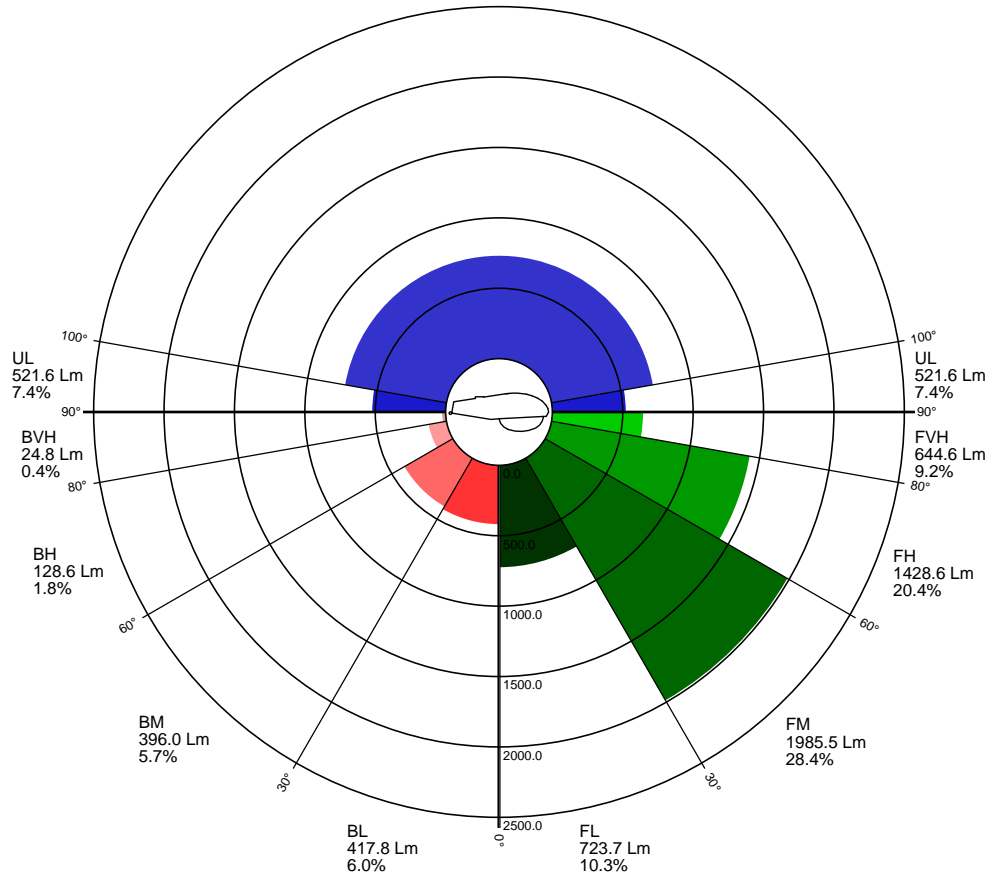
B U G

Forward		4782	68.3			
FL	(0° - 30°)	723.7	10.3			
FM	(30° - 60°)	1985.5	28.4			
FH	(60° - 80°)	1428.6	20.4			G1
FVH	(80° - 90°)	644.6	9.2			G4
Backward		967	13.8			
BL	(0° - 30°)	417.8	6.0	B1		
BM	(30° - 60°)	396.0	5.7	B1		
BH	(60° - 80°)	128.6	1.8	B1		G1
BVH	(80° - 90°)	24.8	0.4			G1
Upward		1252	17.9			
UL	(90° - 100°)	521.6	7.4		U4	
UH	(100° - 180°)	730.7	10.4		U4	
Trapped Light		0	0.0			
Total Flux		7002	100.0			

### Zonal Lumen Summary

(Linear scale)

UH  
730.7 Lm  
10.4%



REPORT NUMBER: RAB03112

ISSUE DATE: 03/28/17

CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10

GLASS LENS)

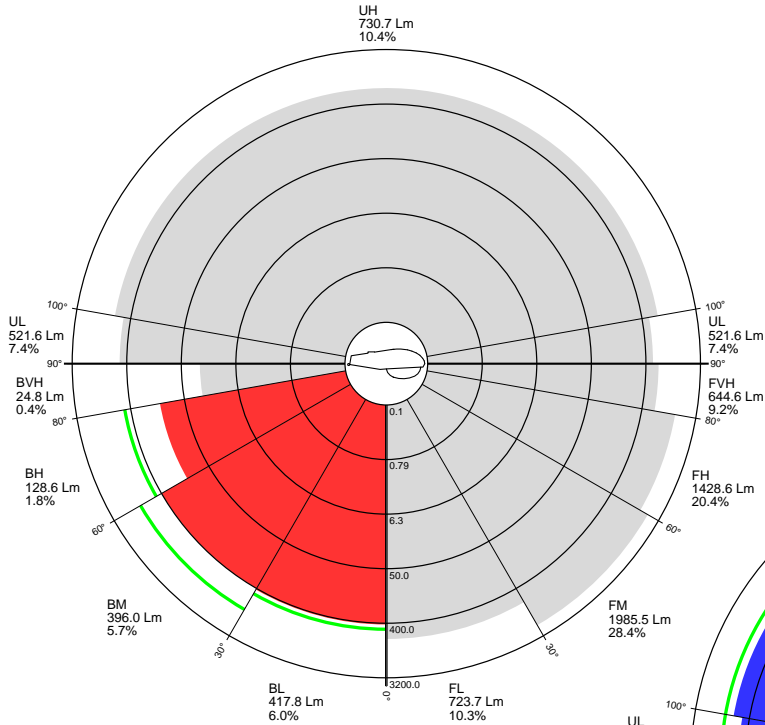
PAGE: 6 OF 9

DATE SAMPLE TESTED: 03/28/17

(STANDARD CUTOFF - PRISMATIC

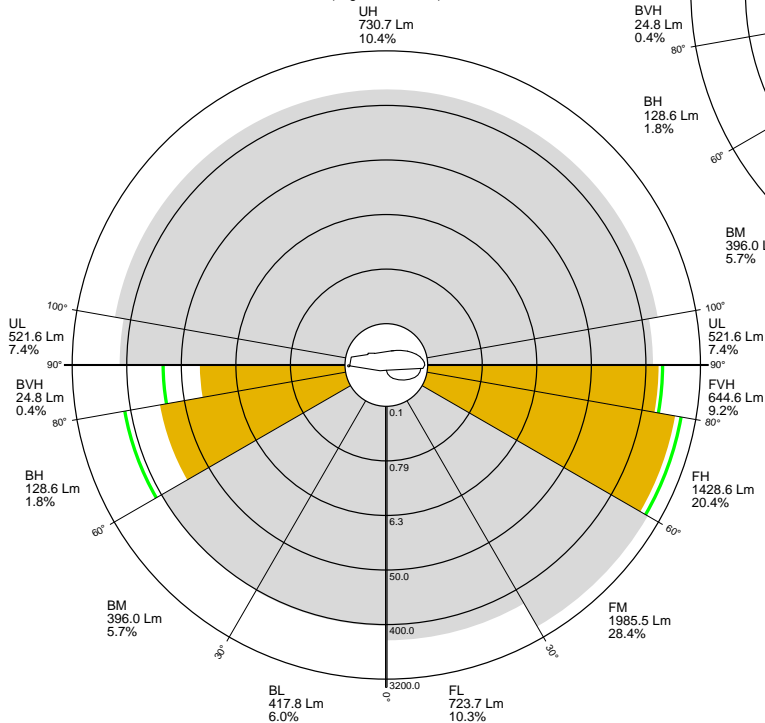
### Backlight Rating Details

(Logarithmic scale)



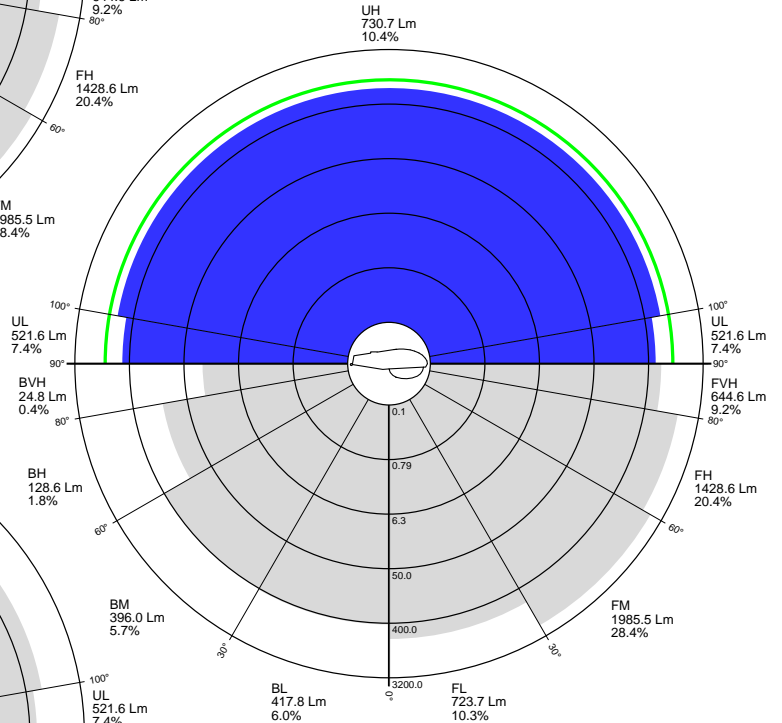
### Glare Rating Details

(Logarithmic scale)



### Uplight Rating Details

(Logarithmic scale)



REPORT NUMBER: RAB03112

ISSUE DATE: 03/28/17

CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10

PAGE: 7 OF 9

DATE SAMPLE TESTED: 03/28/17

(STANDARD CUTOFF - PRISMATIC GLASS)

### 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.	3.	4.	5.	6.	6.	7.
	165.0	20.	19.	18.	16.	14.	10.	7.	6.	7.
	155.0	63.	63.	61.	56.	49.	39.	27.	16.	8.
	145.0	153.	153.	148.	136.	120.	91.	68.	46.	23.
	135.0	207.	203.	189.	159.	127.	101.	93.	77.	46.
	125.0	355.	343.	328.	299.	241.	174.	109.	72.	65.
	115.0	807.	790.	736.	612.	465.	322.	200.	103.	74.
	105.0	1298.	1261.	1221.	1079.	845.	598.	394.	217.	93.
	95.0	1706.	1655.	1636.	1493.	1264.	939.	645.	420.	226.
	90.0	1879.	1821.	1799.	1659.	1424.	1096.	745.	521.	341.
	87.5	1971.	1931.	1917.	1763.	1523.	1163.	796.	546.	417.
	85.0	2133.	2067.	2004.	1775.	1576.	1208.	838.	606.	487.
V	82.5	1983.	1952.	1956.	1968.	1624.	1232.	869.	649.	554.
E	80.0	2277.	2180.	2157.	1855.	1608.	1271.	895.	701.	631.
R	77.5	2123.	2149.	2102.	2077.	1678.	1232.	912.	754.	750.
T	75.0	2166.	2093.	2035.	1790.	1550.	1289.	944.	806.	799.
I	72.5	2315.	2260.	2214.	2030.	1644.	1235.	995.	989.	851.
C	70.0	2122.	2081.	1985.	1803.	1555.	1296.	1066.	1105.	900.
A	67.5	2158.	2139.	2101.	1882.	1594.	1307.	1221.	1211.	921.
L	65.0	2103.	2060.	1979.	1786.	1554.	1396.	1415.	1290.	935.
	62.5	2049.	2014.	1969.	1770.	1584.	1562.	1528.	1260.	882.
A	60.0	2049.	2007.	1936.	1800.	1732.	1691.	1702.	1371.	853.
N	57.5	1982.	1982.	1902.	1877.	1813.	1948.	1676.	1355.	853.
G	55.0	2053.	2014.	2027.	1929.	2004.	1968.	1710.	1332.	893.
L	52.5	2105.	2089.	2134.	2118.	2169.	2005.	1814.	1334.	921.
E	50.0	2219.	2212.	2303.	2375.	2255.	2064.	1733.	1212.	972.
	47.5	2486.	2527.	2458.	2395.	2203.	1999.	1726.	1174.	1038.
	45.0<<	2514.	2542.	2541.	2352.	2215.	1993.	1676.	1178.	1092.
	42.5	2393.	2414.	2424.	2423.	2203.	1974.	1547.	1217.	1144.
	40.0	2446.	2486.	2389.	2308.	2054.	1844.	1460.	1273.	1188.
	37.5	2332.	2402.	2416.	2156.	2049.	1795.	1401.	1368.	1245.
	35.0	2226.	2251.	2209.	2204.	1989.	1639.	1463.	1495.	1323.
	30.0	2003.	2055.	2092.	1880.	1719.	1570.	1559.	1464.	1546.
	25.0	1786.	1791.	1737.	1770.	1660.	1703.	1776.	1809.	1678.
	20.0	1746.	1728.	1839.	1836.	1770.	1880.	1631.	1542.	1573.
	15.0	1815.	1811.	1897.	1988.	1731.	1890.	1635.	1918.	1596.
	10.0	2126.	2113.	2093.	1914.	1614.	1774.	1915.	1610.	1753.
	5.0	1717.	1708.	1646.	1623.	1611.	1647.	1711.	1719.	1626.
	0.0	1584.	1584.	1584.	1584.	1584.	1584.	1584.	1584.	1584.

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03112

PAGE: 8 OF 9

ISSUE DATE: 03/28/17

DATE SAMPLE TESTED: 03/28/17

CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS)

## 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	7.	7.	6.	6.	6.	5.	4.	3.	2.	1. 1.
	165.0	7.	7.	6.	6.	6.	5.	4.	4.	3.	2. 2.
	155.0	7.	7.	7.	6.	6.	5.	5.	4.	3.	3. 3.
	145.0	10.	8.	7.	7.	7.	6.	5.	4.	3.	3. 3.
	135.0	18.	15.	10.	11.	9.	7.	5.	4.	4.	4. 3.
	125.0	30.	24.	19.	16.	13.	9.	5.	4.	4.	4. 4.
	115.0	46.	39.	31.	25.	18.	12.	8.	6.	6.	5. 5.
	105.0	51.	44.	40.	34.	23.	16.	11.	8.	8.	8. 8.
	95.0	44.	50.	52.	48.	32.	20.	14.	10.	9.	10. 10.
	90.0	47.	48.	62.	56.	38.	24.	16.	11.	10.	10. 10.
	87.5	64.	53.	69.	63.	45.	28.	18.	12.	10.	10. 10.
	85.0	93.	64.	76.	72.	52.	36.	22.	13.	9.	9. 10.
V	82.5	136.	83.	84.	83.	62.	53.	37.	33.	28.	31. 33.
E	80.0	187.	109.	93.	94.	71.	70.	49.	50.	42.	43. 44.
R	77.5	244.	142.	100.	102.	79.	83.	62.	62.	59.	54. 54.
T	75.0	302.	179.	108.	107.	87.	92.	78.	72.	75.	68. 67.
I	72.5	346.	220.	115.	111.	94.	96.	95.	80.	91.	89. 86.
C	70.0	390.	263.	129.	115.	99.	99.	111.	90.	97.	108. 108.
A	67.5	420.	303.	151.	122.	107.	103.	119.	106.	100.	113. 114.
L	65.0	455.	348.	179.	131.	119.	107.	120.	123.	106.	111. 112.
	62.5	491.	388.	214.	142.	132.	118.	121.	131.	120.	112. 110.
A	60.0	527.	438.	251.	158.	147.	131.	127.	131.	136.	130. 128.
N	57.5	572.	481.	294.	182.	162.	148.	137.	132.	137.	148. 147.
G	55.0	628.	522.	340.	215.	178.	165.	150.	143.	135.	140. 142.
L	52.5	686.	589.	392.	251.	197.	182.	164.	159.	146.	135. 131.
E	50.0	756.	651.	446.	291.	219.	198.	184.	172.	163.	154. 151.
	47.5	829.	726.	501.	335.	249.	216.	202.	191.	182.	177. 175.
	45.0<<	903.	789.	570.	387.	279.	238.	217.	212.	201.	194. 191.
	42.5	972.	865.	633.	453.	314.	262.	234.	225.	217.	209. 207.
	40.0	1047.	937.	705.	518.	356.	287.	253.	238.	226.	220. 218.
	37.5	1119.	1014.	771.	593.	421.	320.	276.	253.	241.	234. 231.
	35.0	1193.	1082.	853.	666.	501.	368.	308.	277.	255.	250. 247.
	30.0	1313.	1202.	1017.	820.	684.	549.	423.	354.	315.	301. 297.
	25.0	1389.	1325.	1175.	988.	853.	743.	650.	578.	491.	468. 454.
	20.0	1474.	1470.	1324.	1164.	1033.	923.	824.	772.	734.	718. 708.
	15.0	1519.	1509.	1399.	1323.	1200.	1151.	1054.	971.	951.	935. 925.
	10.0	1583.	1567.	1566.	1438.	1394.	1323.	1266.	1212.	1193.	1192. 1195.
	5.0	1588.	1581.	1559.	1567.	1554.	1494.	1452.	1435.	1427.	1420. 1420.
	0.0	1584.	1584.	1584.	1584.	1584.	1584.	1584.	1584.	1584.	1584. 1584.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03112  
ISSUE DATE: 03/28/17  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9  
DATE SAMPLE TESTED: 03/28/17

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	38
5- 10	113
10- 15	180
15- 20	233
20- 25	274
25- 30	304
30- 35	339
35- 40	373
40- 45	407
45- 50	429
50- 55	424
55- 60	409
60- 65	398
65- 70	394
70- 75	389
75- 80	376
80- 85	351
85- 90	318
90- 95	281
95-100	240
100-105	198
105-110	155
110-115	115
115-120	81
120-125	54
125-130	38
130-135	27
135-140	20
140-145	16
145-150	12
150-155	6
155-160	4
160-165	2
165-170	1
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	151
0- 20	564
0- 30	1141
0- 40	1853
0- 50	2690
0- 60	3523
0- 70	4316
0- 80	5080
0- 90	5750
0-100	6271
0-110	6625
0-120	6822
0-130	6913
0-140	6961
0-150	6989
0-160	6999
0-170	7001
0-180	7002

REPORT NUMBER: RAB03113  
DATE: 3/28/2017  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: WP3LED65Y, WP3LED65Y/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-G075-A2800-C

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

REPORT NUMBER: RAB03113  
 DATE: 3/28/2017  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	7002 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4251
Chromaticity Ordinate y	0.3997
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2448
Chromaticity Ordinate v'	0.5179
Correlated Color Temp CCT (K)	3173
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	21279 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.525
Input Power (Watts)	62.8
Input Power Factor (%)	99.8
Input Current THD (%)	6.3
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	111.5
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.239
Input Power (Watts)	61.8
Input Power Factor (%)	93.2
Input Current THD (%)	9.5
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	80
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:

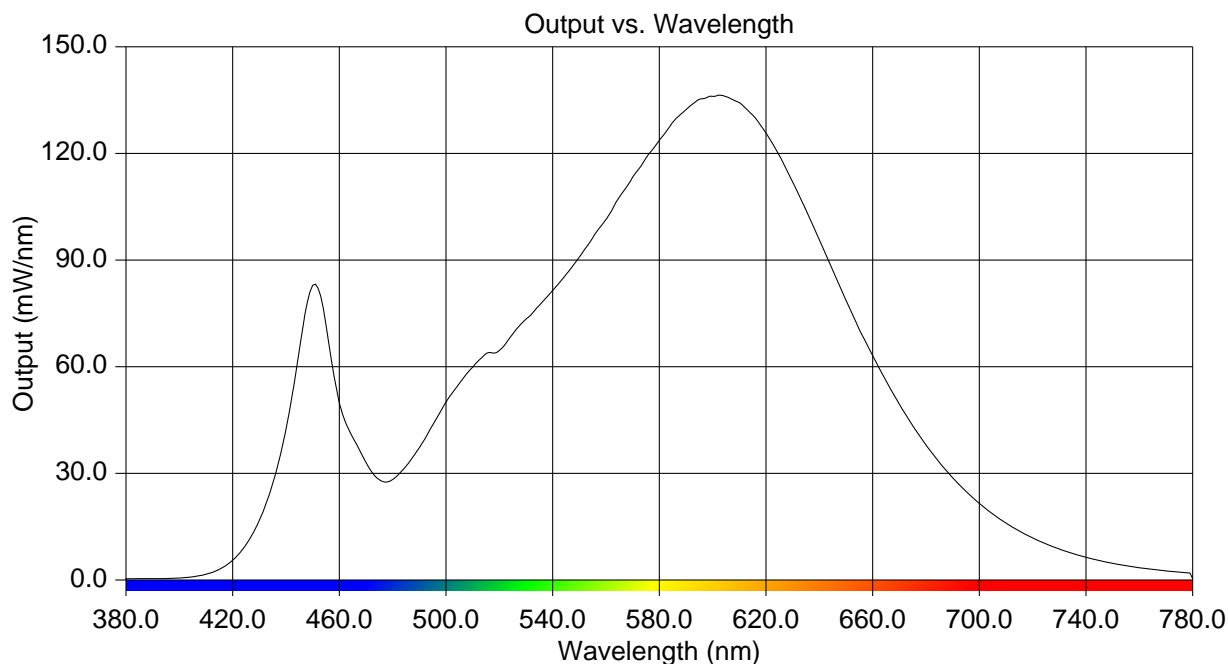
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB03113  
 DATE: 3/28/2017  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.346	515	63.649	650	78.720
385	0.330	520	64.572	655	70.415
390	0.372	525	69.198	660	63.043
395	0.392	530	73.385	665	56.052
400	0.562	535	77.242	670	49.433
405	0.874	540	81.324	675	43.414
410	1.570	545	85.855	680	37.993
415	3.001	550	90.702	685	33.069
420	5.530	555	96.205	690	28.731
425	9.877	560	101.301	695	24.933
430	16.844	565	107.722	700	21.575
435	27.040	570	113.328	705	18.563
440	42.224	575	118.673	710	15.999
445	64.416	580	123.664	715	13.738
450	82.872	585	128.670	720	11.845
455	71.764	590	132.288	725	10.122
460	49.886	595	135.219	730	8.721
465	40.114	600	136.018	735	7.427
470	33.023	605	136.024	740	6.354
475	28.204	610	134.256	745	5.488
480	28.240	615	130.777	750	4.696
485	31.994	620	125.601	755	4.014
490	37.200	625	119.488	760	3.450
495	43.586	630	111.886	765	2.966
500	50.029	635	104.056	770	2.552
505	55.217	640	95.710	775	2.213
510	59.835	645	87.139	780	0.332



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CATALOG NUMBER: WP3LED65Y, WP3LED65Y/D10 (STANDARD CUTOFF - PRISMATIC GLASS LENS)

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## CIE Chromaticity Diagram

