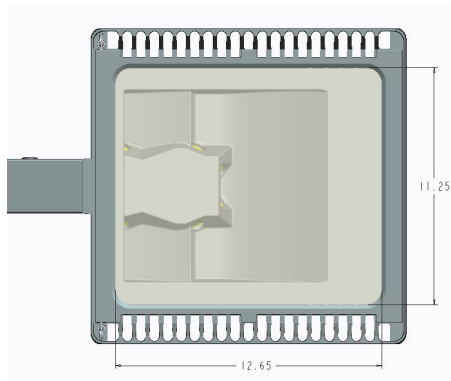
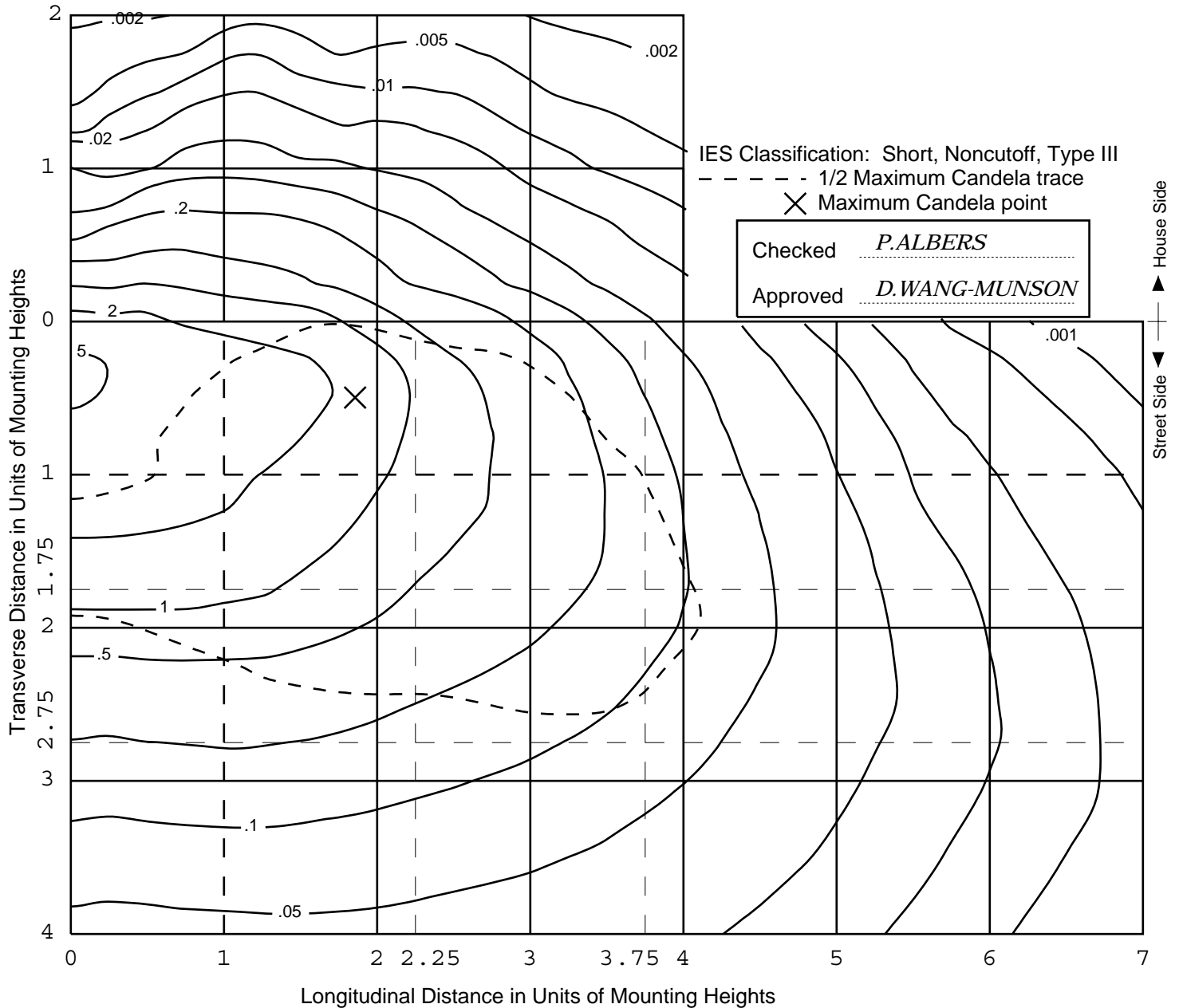


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 25 foot mounting height.



REPORT NUMBER: RAB04345
 ISSUE DATE: 05/02/18 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 05/02/18
 CATALOG NUMBER: ALED3T125Y/480 -
 RWLED3T125Y/480 - RWLED3T125SFY/480 -
 WPLED3T125Y/480 (TYPE III) (ALSO
 APPLIES TO 347 RCL)
 LUMINAIRE: CAST FINNED METAL HOUSING, 6
 CIRCUIT BOARDS EACH WITH 1 LED,
 MOLDED PLASTIC REFLECTOR WITH
 SPECULAR FINISH AND 1 APERTURE PER
 LED, CLEAR FLAT GLASS LENS IN CAST
 BROWN PAINTED METAL LENS FRAME.
 (SEE PAGE 2 FOR MORE INFORMATION)



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DATE SAMPLE TESTED: 05/02/18

CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 - WPLED3

ADDITIONAL INFORMATION

LAMPS: SIX WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), 2 LEDs TILTED 63-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 75-DEGREES FROM STRAIGHT AHEAD, 2 LEDs TILTED 67-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 68-DEGREES FROM STRAIGHT AHEAD, 2 LEDs TILTED 58-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 40-DEGREES FROM STRAIGHT AHEAD.

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.

TOTAL INPUT WATTS = 135.92 W AT 480.0 VAC.

LED DRIVER: 2 x RD-H065-A1810-480

TEST PROCEDURE: IESNA LM-79-08

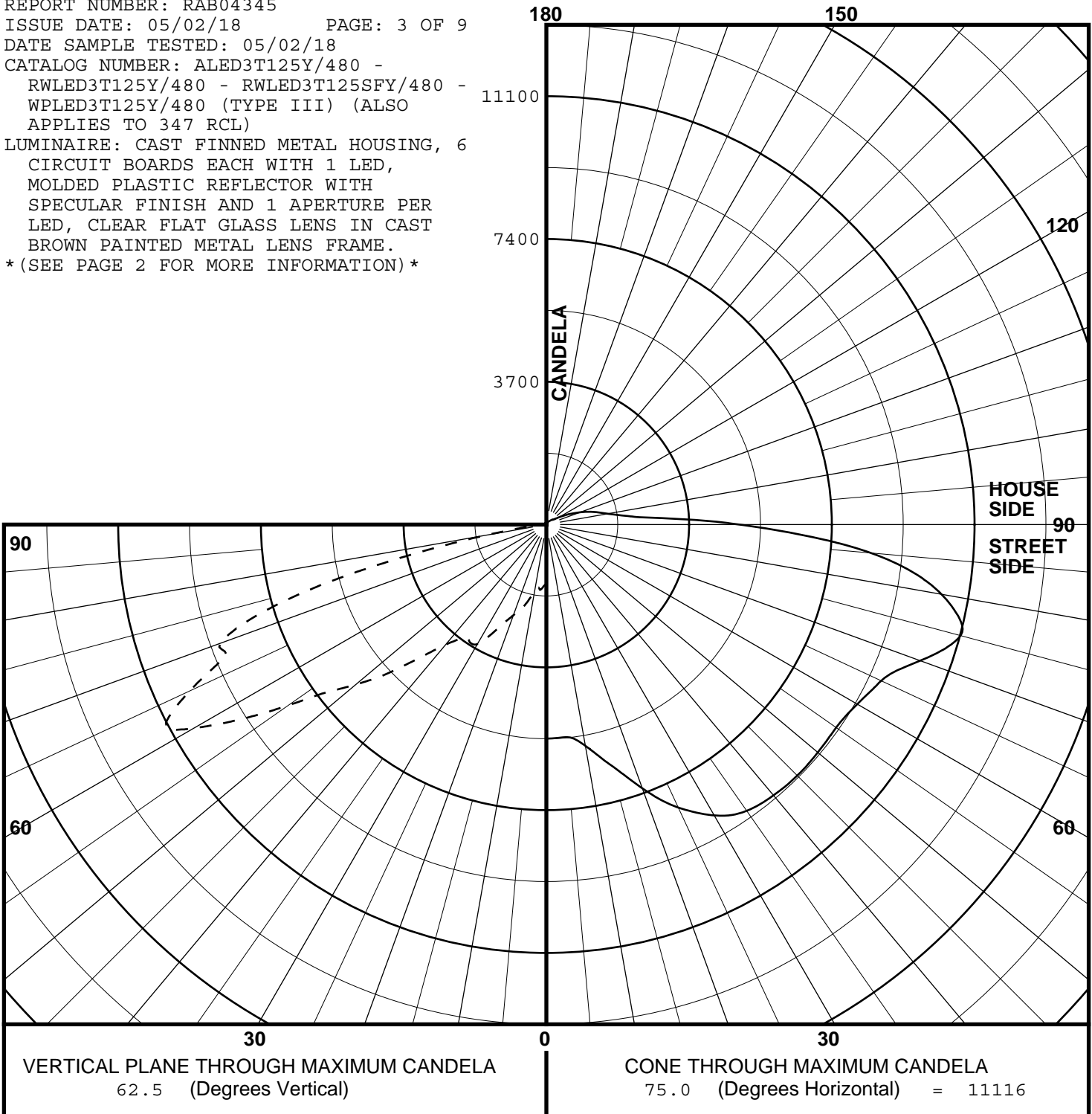
LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

AMBIENT: 25.4

ACCREDITED LABORATORY CODE 201058-0 LED Area, Parking, Parks, Pathway, Pedestrian, Pool, Sidewalk, Site Sports, Street, Utility, Automotive, Hotel, Roadway Damp Location, Wet Location, Outdoor, Commercial Pole 3000 DLC

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

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 ISSUE DATE: 05/02/18 PAGE: 3 OF 9
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 RWLED3T125Y/480 - RWLED3T125SFY/480 -
 WPLED3T125Y/480 (TYPE III) (ALSO
 APPLIES TO 347 RCL)
 LUMINAIRE: CAST FINNED METAL HOUSING, 6
 CIRCUIT BOARDS EACH WITH 1 LED,
 MOLDED PLASTIC REFLECTOR WITH
 SPECULAR FINISH AND 1 APERTURE PER
 LED, CLEAR FLAT GLASS LENS IN CAST
 BROWN PAINTED METAL LENS FRAME.
 (SEE PAGE 2 FOR MORE INFORMATION)



REPORT NUMBER: RAB04345

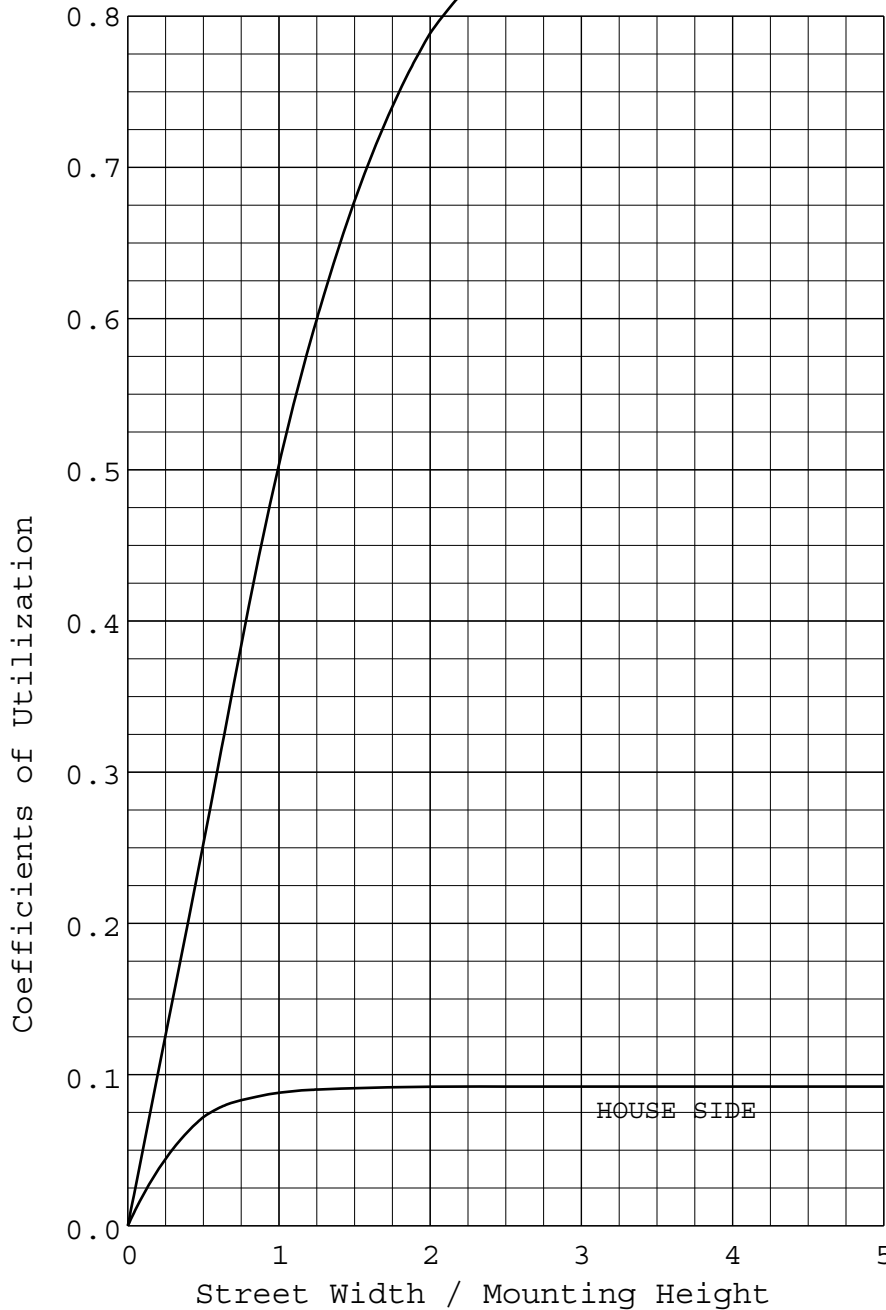
PAGE: 4 OF 9

ISSUE DATE: 05/02/18

DATE SAMPLE TESTED: 05/02/18

CATALOG NUMBER: ALED3T125Y/480 - ~~RWLED3T125Y/480~~ - RWLED3T125SFY/480 - WPLED3

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	14519.	90.7
DOWNWARD HOUSE SIDE	1486.	9.3
DOWNWARD TOTAL	16004.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	16004.	100.0

TOTAL INPUT WATTS = 135.9
EFFICACY = 117.8 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.

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DATE SAMPLE TESTED: 05/02/18

CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 -

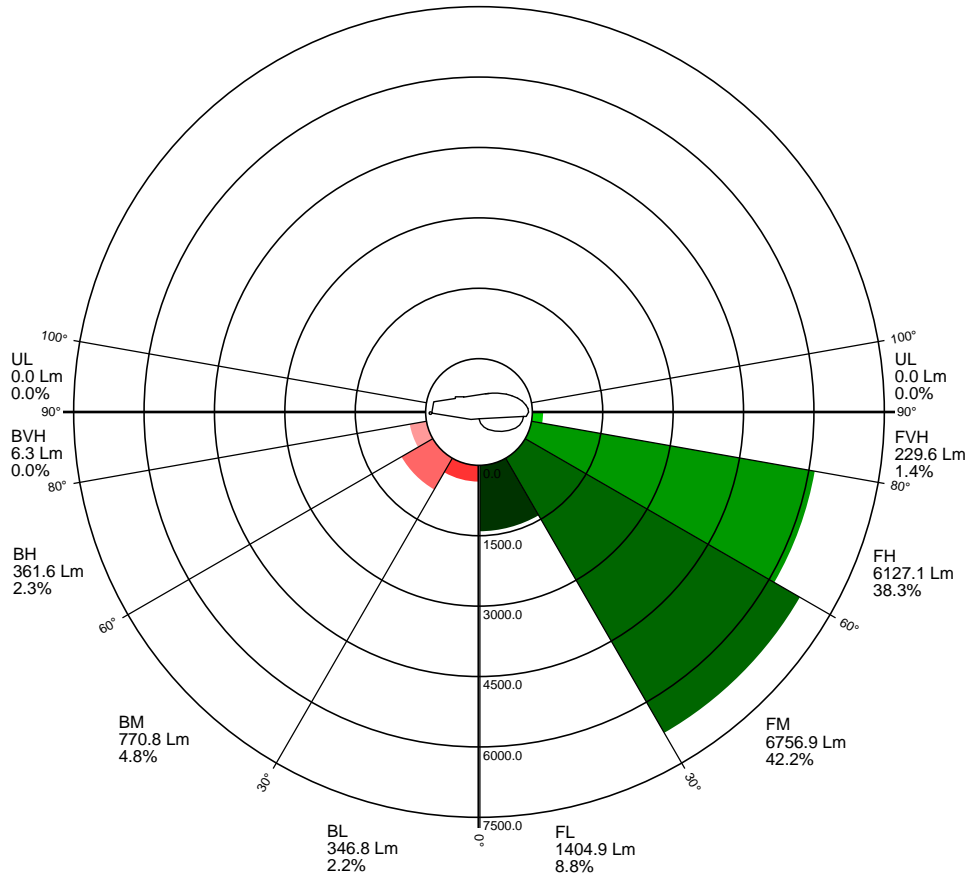
WPLLED3T125Y/480 (TYPE III) (ALSO APPLIES TO RCL)

Zonal Summary			Lumens	% of Fixture	Zone Ratings		
					B	U	G
Forward			14519	90.7			
FL	(0° – 30°)		1404.9	8.8			
FM	(30° – 60°)		6756.9	42.2			
FH	(60° – 80°)		6127.1	38.3			G3
FVH	(80° – 90°)		229.6	1.4			G3
Backward			1486	9.3			
BL	(0° – 30°)		346.8	2.2	B1		
BM	(30° – 60°)		770.8	4.8	B1		
BH	(60° – 80°)		361.6	2.3	B1		G1
BVH	(80° – 90°)		6.3	0.0			G0
Upward			0	0.0			
UL	(90° – 100°)		0.0	0.0		U0	
UH	(100° – 180°)		0.0	0.0		U0	
Trapped Light			0	0.0			
Total Flux			16004	100.0			

Zonal Lumen Summary

(Linear scale)

UH
0.0 Lm
0.0%



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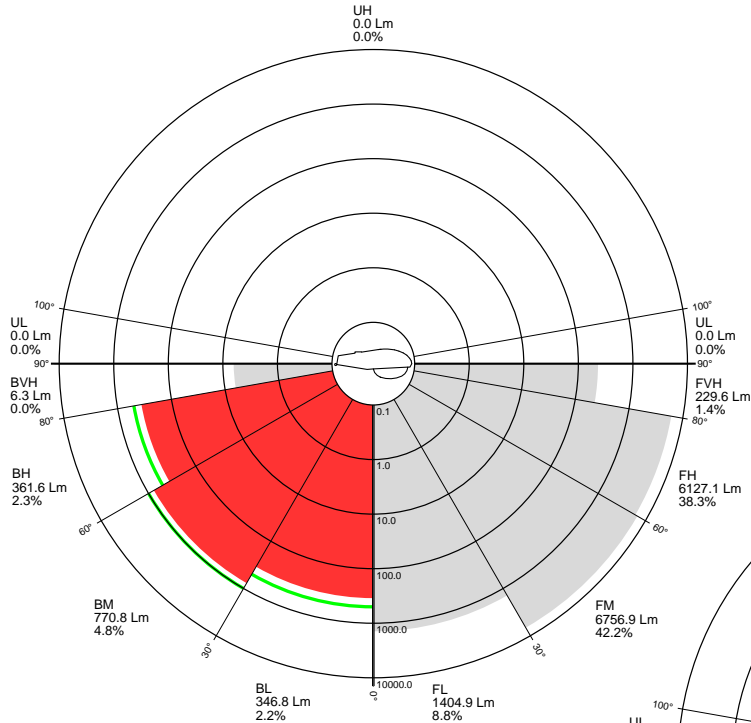
PAGE: 6 OF 9

DATE SAMPLE TESTED: 05/02/18

CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 -
WPLED3T125Y/480 (TYPE III) (ALSO APPLIES TO 347 RCL)

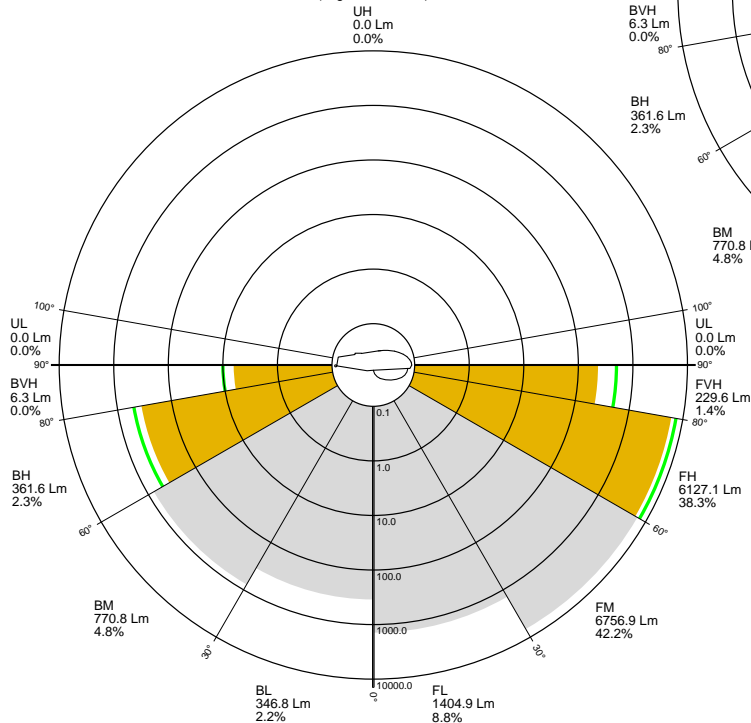
Backlight Rating Details

(Logarithmic scale)



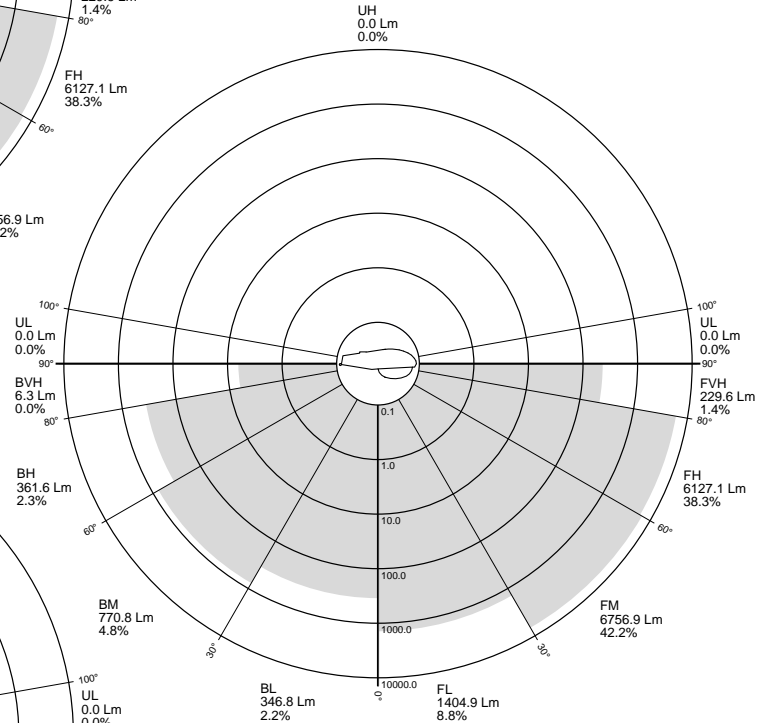
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)





CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 - WPLED3

[illegible]

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB04345

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ISSUE DATE: 05/02/18

DATE SAMPLE TESTED: 05/02/18

CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 - WPLED3

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	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	12.	12.	12.	12.	11.	10.	9.	6.	6.	6.	6.
	85.0	16.	14.	13.	12.	11.	10.	8.	6.	6.	6.	6.
	82.5	38.	27.	16.	14.	10.	9.	7.	6.	5.	6.	6.
	80.0	231.	121.	60.	40.	12.	8.	7.	6.	5.	6.	6.
	77.5	906.	543.	186.	84.	14.	8.	7.	5.	6.	6.	7.
	75.0	2018.	876.	308.	116.	38.	12.	7.	6.	7.	8.	8.
	72.5	3042.	1390.	422.	189.	111.	34.	8.	6.	9.	10.	9.
	70.0	3793.	1774.	719.	314.	130.	43.	20.	7.	9.	10.	9.
	67.5	3839.	1888.	993.	432.	148.	60.	42.	10.	10.	11.	10.
	65.0	4186.	1815.	1097.	517.	185.	96.	79.	22.	12.	12.	11.
	62.5<<	5021.	2298.	1269.	628.	232.	160.	105.	34.	16.	12.	12.
	60.0	5322.	2557.	1457.	710.	281.	220.	110.	45.	25.	17.	14.
	57.5	5114.	2616.	1470.	841.	335.	246.	121.	52.	28.	16.	14.
	55.0	4493.	2556.	1380.	916.	371.	256.	137.	63.	31.	15.	13.
	52.5	3807.	2467.	1327.	843.	423.	277.	154.	73.	39.	16.	13.
	50.0	3395.	2465.	1250.	833.	486.	308.	166.	79.	47.	43.	26.
	47.5	3057.	2341.	1265.	869.	580.	328.	190.	87.	53.	85.	93.
	45.0	2749.	2165.	1272.	857.	589.	355.	223.	98.	72.	69.	90.
	42.5	2523.	2013.	1269.	831.	641.	385.	243.	127.	77.	55.	48.
	40.0	2330.	1912.	1262.	815.	681.	418.	252.	161.	105.	86.	59.
	37.5	2243.	1907.	1299.	812.	683.	438.	280.	161.	119.	98.	99.
35.0	2230.	1953.	1362.	844.	674.	453.	320.	196.	129.	104.	95.	
30.0	2138.	1916.	1415.	961.	646.	561.	372.	256.	187.	158.	138.	
25.0	1931.	1735.	1392.	1088.	691.	491.	379.	277.	216.	212.	213.	
20.0	1717.	1551.	1241.	1050.	841.	580.	432.	338.	286.	261.	255.	
15.0	1611.	1532.	1287.	1109.	936.	796.	673.	597.	570.	574.	568.	
10.0	1474.	1412.	1277.	1122.	1035.	972.	926.	861.	812.	762.	763.	
5.0	1538.	1502.	1418.	1343.	1270.	1205.	1151.	1092.	1065.	1026.	1033.	
0.0	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	1526.	

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB04345

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PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

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DATE SAMPLE TESTED: 05/02/18

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	38
5- 10	122
10- 15	221
15- 20	332
20- 25	450
25- 30	589
30- 35	736
35- 40	868
40- 45	1038
45- 50	1277
50- 55	1601
55- 60	2008
60- 65	2171
65- 70	1929
70- 75	1524
75- 80	864
80- 85	220
85- 90	16
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	159
0- 20	713
0- 30	1752
0- 40	3356
0- 50	5671
0- 60	9279
0- 70	13380
0- 80	15768
0- 90	16004
0-100	16004
0-110	16004
0-120	16004
0-130	16004
0-140	16004
0-150	16004
0-160	16004
0-170	16004
0-180	16004

REPORT NUMBER: RAB04346 Page 1 of 4
 DATE: 5/1/2018
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING
 CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 -
 WPLED3T125Y/480 (TYPE III) (ALSO APPLIES TO 347 RCL)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST FINNED METAL HOUSING, 6 CIRCUIT BOARDS EACH WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL LENS FRAME.

LAMP: SIX WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), 2 LEDs TILTED 63-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 75-DEGREES FROM STRAIGHT AHEAD, 2 LEDs TILTED 67-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 68-DEGREES FROM STRAIGHT AHEAD, 2 LEDs TILTED 58-DEGREES FROM VERTICAL BASE-UP POSITION AND CANTED 40-DEGREES FROM STRAIGHT AHEAD.

DRIVER: 2 X RD-H065-A1810-480

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT VOLTAGES (480.0 AND 347.0 VAC, 60Hz) TO THE TEST SAMPLE.

INSTRUMENTS: Calibration Due:
 GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100 N/A
 CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202 3/08/19
 OCEAN OPTICS QE65PRO Spectroradiometer 04/23/19
 RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry 04/23/19

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 (347.0 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: RAB04346
 DATE: 5/1/2018
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING
 CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 -
 WPLED3T125Y/480 (TYPE III) (ALSO APPLIES TO 347 RCL)

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	16004 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4356
Chromaticity Ordinate y	0.4063
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2488
Chromaticity Ordinate v'	0.5221
Correlated Color Temp CCT (K)	3040
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	44639 *
ELECTRICAL	
Input Voltage (Volts AC)	480.0
Input Current (Amps AC)	0.299
Input Power (Watts)	135.9
Input Power Factor (%)	94.8
Input Current THD (%)	13.1
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	117.8
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	347.0
Input Current (Amps AC)	0.389
Input Power (Watts)	133.5
Input Power Factor (%)	99.0
Input Current THD (%)	5.0
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	81
R3 Strong yellowish green	95
R4 Moderate yellowish green	68
R5 Light bluish green	67
R6 Light blue	77
R7 Light violet	75
R8 Light reddish purple	38
R9 Strong red	-46
R10 Strong yellow	60
R11 Strong green	64
R12 Strong blue	58
R13 Light yellowish pink (skin)	68
R14 Moderate olive green (leaf)	97

*NOTE:

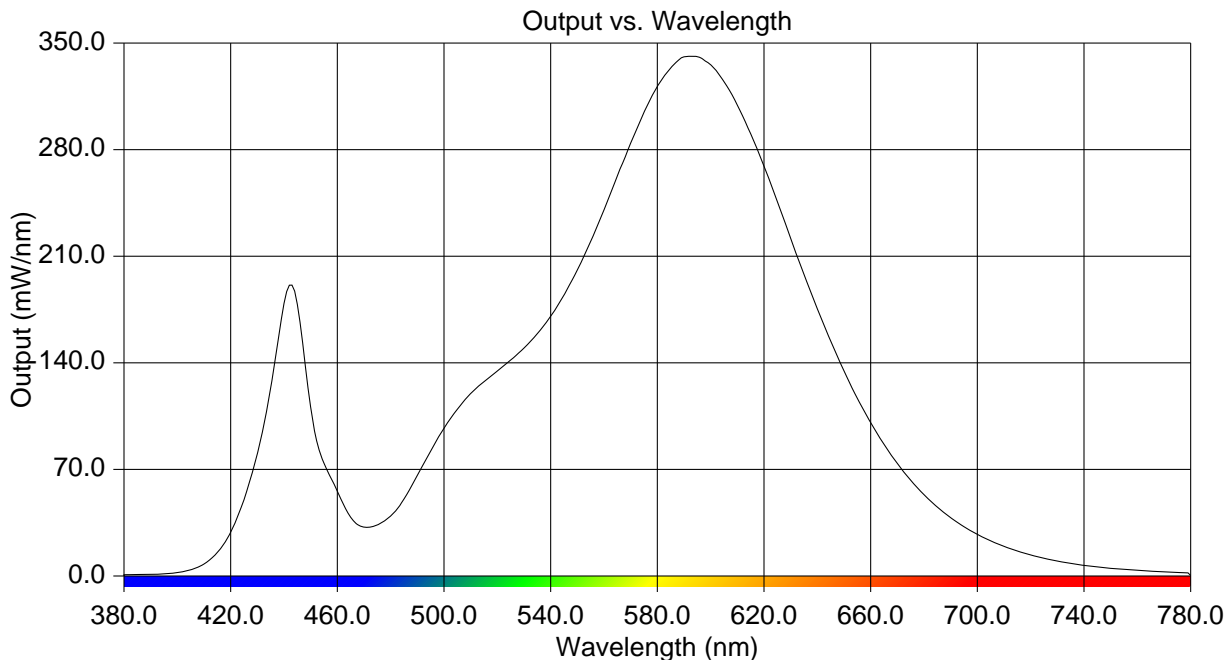
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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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 CATALOG NUMBER: ALED3T125Y/480 - RWLED3T125Y/480 - RWLED3T125SFY/480 -
 WPLED3T125Y/480 (TYPE III) (ALSO APPLIES TO 347 RCL)

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.793	515	127.560	650	134.456
385	0.943	520	134.477	655	116.671
390	1.068	525	141.735	660	100.665
395	1.434	530	149.586	665	86.419
400	2.209	535	159.085	670	73.772
405	3.997	540	170.698	675	62.749
410	7.865	545	184.438	680	53.450
415	15.401	550	200.626	685	45.267
420	28.715	555	219.647	690	38.324
425	50.005	560	240.247	695	32.339
430	80.073	565	262.583	700	27.351
435	123.008	570	284.093	705	22.977
440	178.852	575	304.001	710	19.417
445	178.269	580	321.329	715	16.414
450	110.688	585	333.242	720	13.741
455	73.998	590	340.715	725	11.628
460	55.689	595	340.893	730	9.836
465	38.553	600	335.421	735	8.274
470	31.965	605	324.426	740	6.980
475	33.514	610	308.986	745	5.945
480	39.272	615	290.246	750	5.077
485	50.537	620	269.063	755	4.299
490	65.954	625	246.150	760	3.670
495	82.302	630	221.552	765	3.129
500	97.076	635	197.927	770	2.692
505	109.402	640	175.364	775	2.296
510	119.688	645	154.409	780	0.346



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CIE Chromaticity Diagram

