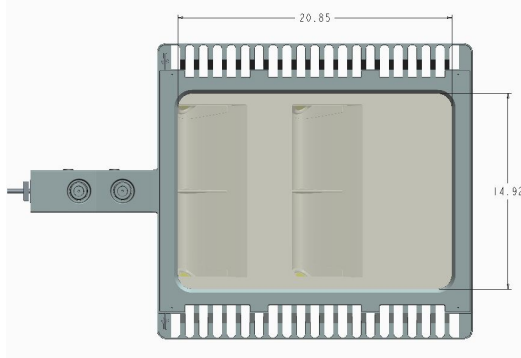


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 25 foot mounting height.



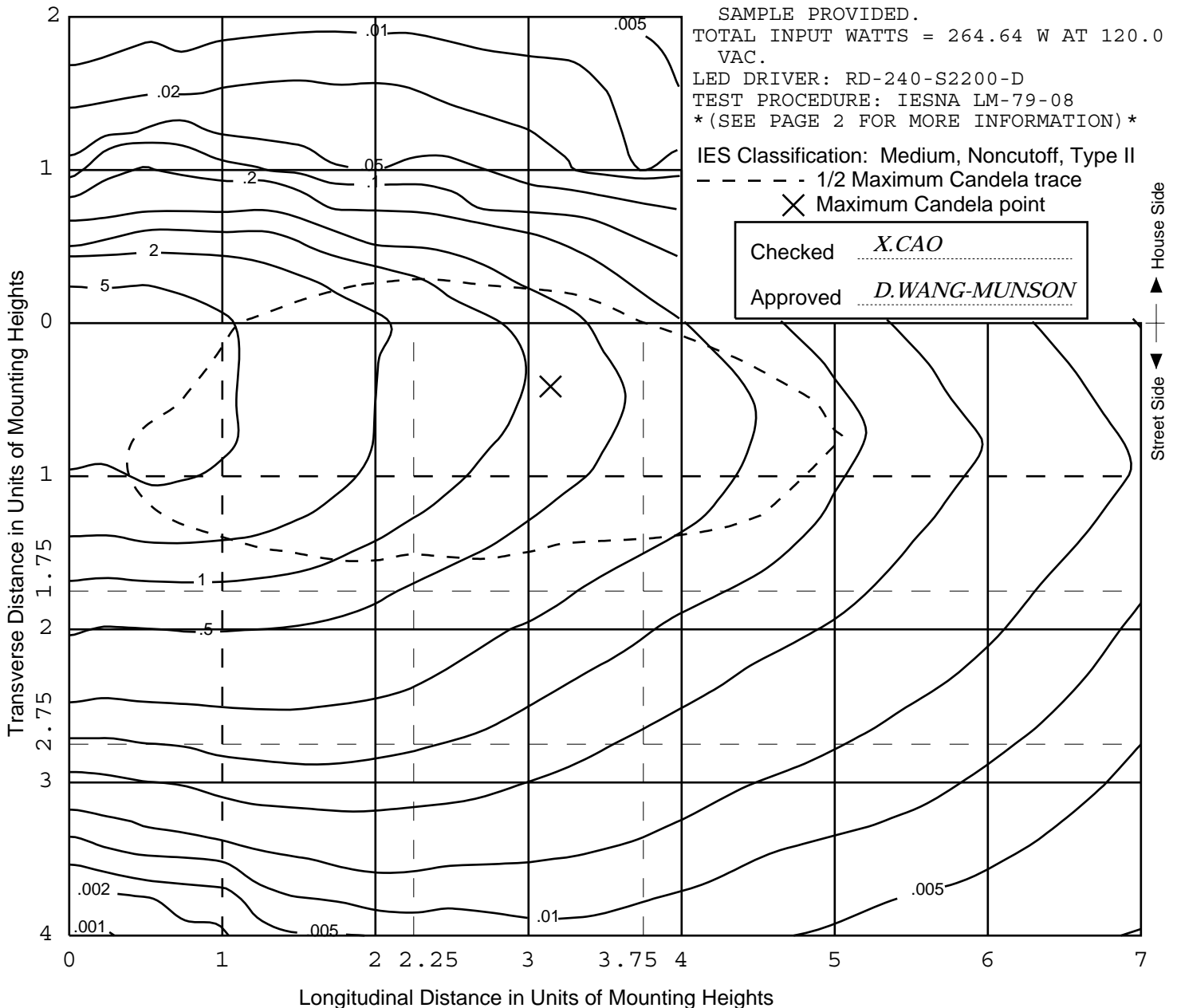
REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T260N/D10 -
 ALED2T260SFN/D10 - WPLED2T260N/D10 -
 WPLED2T260NFX/D10 (TYPE II)
 LUMINAIRE: CAST FINNED METAL HOUSING, 4
 CHIP ON BOARD LIGHT EMITTING DIODES,
 MOLDED PLASTIC REFLECTOR WITH
 SPECULAR FINISH, CLEAR GLASS LENS IN
 CAST BRONZE PAINTED METAL FRAME.
 LAMPS: FOUR WHITE LIGHT EMITTING DIODES
 (LEDs)

NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.
 TOTAL INPUT WATTS = 264.64 W AT 120.0
 VAC.

LED DRIVER: RD-240-S2200-D
 TEST PROCEDURE: IESNA LM-79-08
 (SEE PAGE 2 FOR MORE INFORMATION)

IES Classification: Medium, Noncutoff, Type II

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



REPORT NUMBER: RAB01656
ISSUE DATE: 01/25/16
PREPARED FOR: RAB LIGHTING INC.

PAGE: 2 OF 9
DATE SAMPLE TESTED: 01/25/16

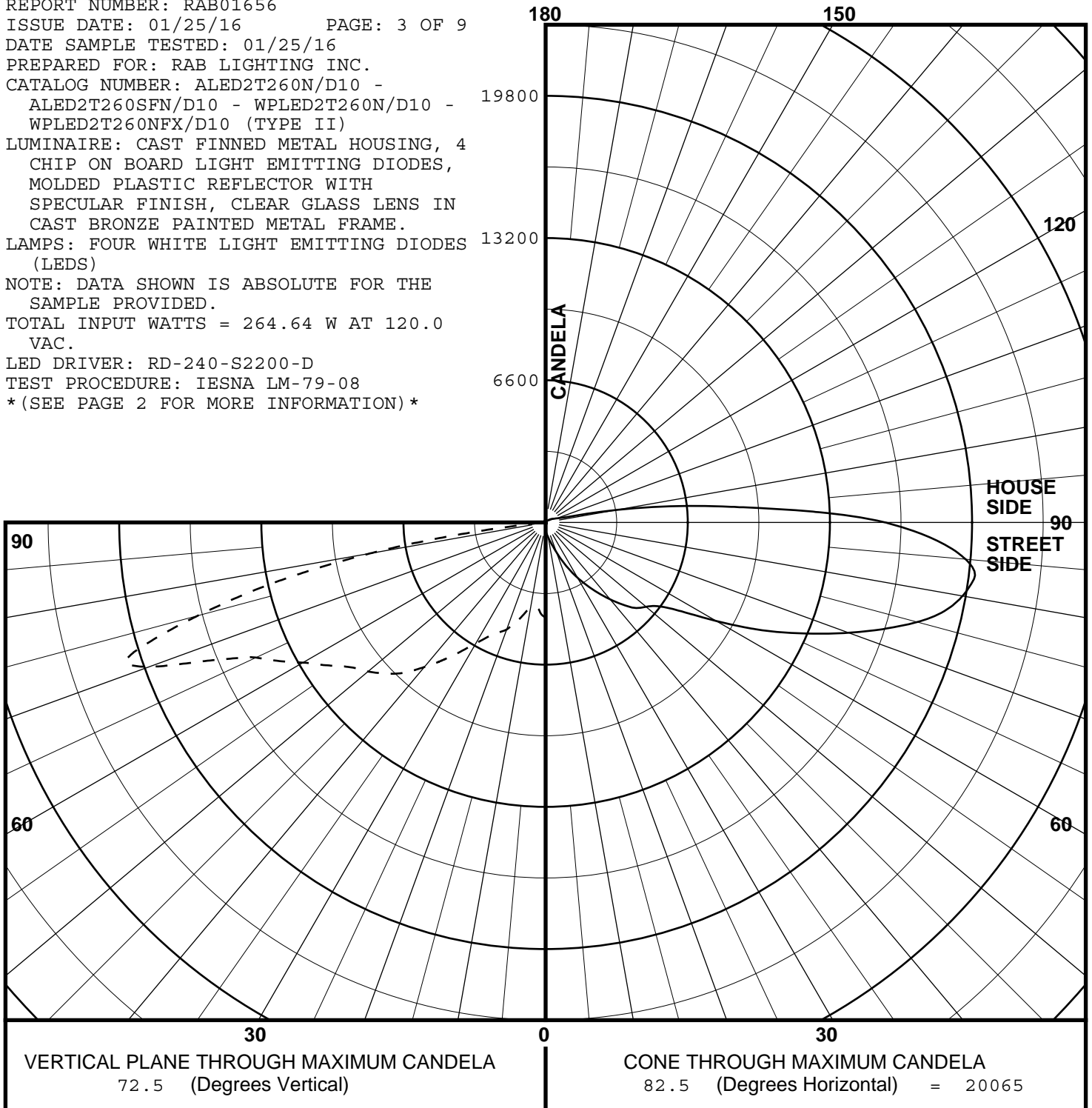
ADDITIONAL INFORMATION

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

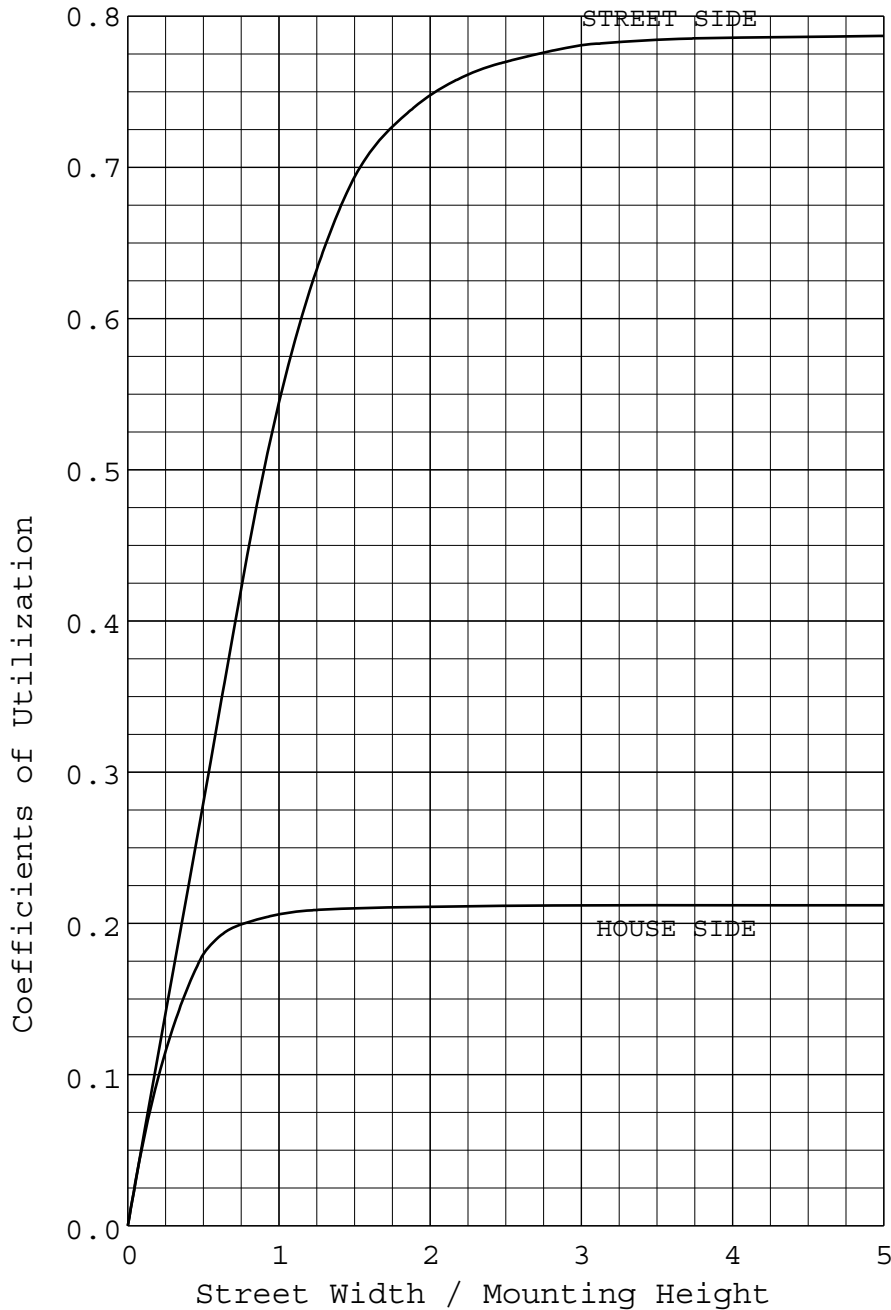
REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16 PAGE: 3 OF 9
 DATE SAMPLE TESTED: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T260N/D10 -
 ALED2T260SFN/D10 - WPLED2T260N/D10 -
 WPLED2T260NFX/D10 (TYPE II)
 LUMINAIRE: CAST FINNED METAL HOUSING, 4
 CHIP ON BOARD LIGHT EMITTING DIODES,
 MOLDED PLASTIC REFLECTOR WITH
 SPECULAR FINISH, CLEAR GLASS LENS IN
 CAST BRONZE PAINTED METAL FRAME.
 LAMPS: FOUR WHITE LIGHT EMITTING DIODES (LEDs)
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.
 TOTAL INPUT WATTS = 264.64 W AT 120.0
 VAC.
 LED DRIVER: RD-240-S2200-D
 TEST PROCEDURE: IESNA LM-79-08
 (SEE PAGE 2 FOR MORE INFORMATION)



REPORT NUMBER: RAB01656
ISSUE DATE: 01/25/16
PREPARED FOR: RAB LIGHTING INC.

PAGE: 4 OF 9
DATE SAMPLE TESTED: 01/25/16

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	21812.	78.8
DOWNWARD HOUSE SIDE	5880.	21.2
DOWNWARD TOTAL	27692.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	27692.	100.0
TOTAL INPUT WATTS = 264.6		
EFFICACY = 104.7 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: RAB01656
 ISSUE DATE: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.

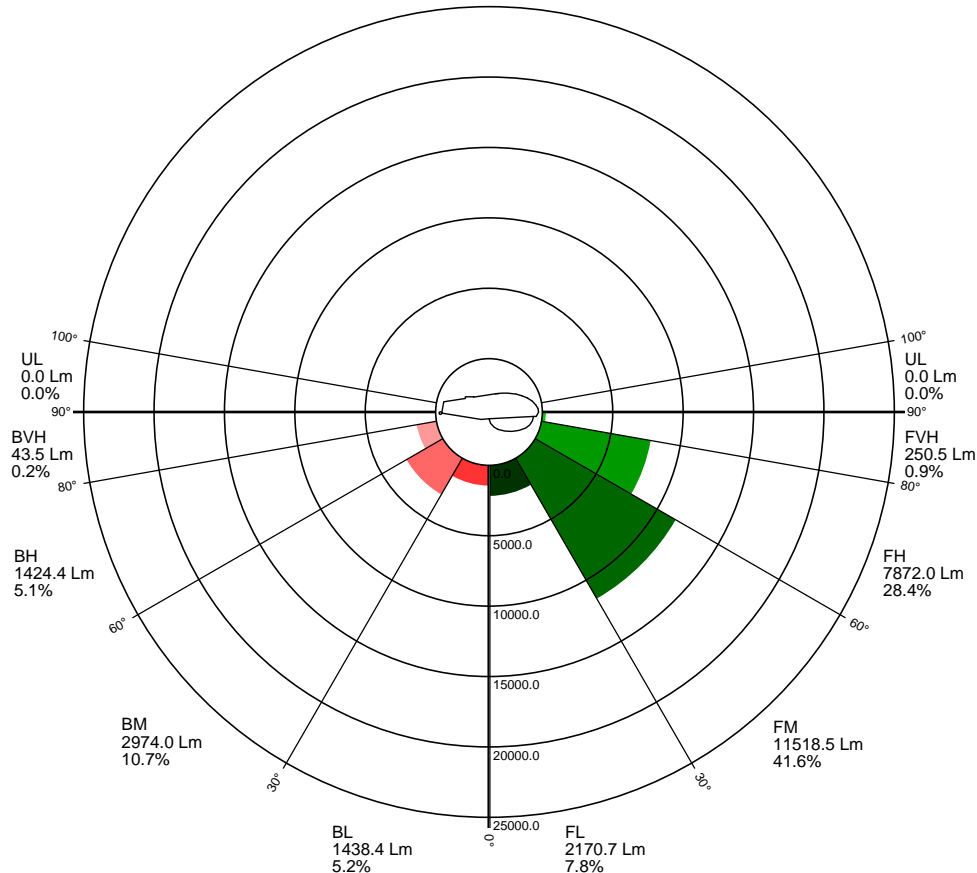
PAGE: 5 OF 9
 DATE SAMPLE TESTED: 01/25/16

BUG Rating:				B3 U0 G4		
Zonal Summary				Zone Ratings		
		Lumens	% of Fixture	B	U	G
Forward		21812	78.8			
FL	(0° - 30°)	2170.7	7.8			
FM	(30° - 60°)	11518.5	41.6			
FH	(60° - 80°)	7872.0	28.4			G4
FVH	(80° - 90°)	250.5	0.9			G3
Backward		5880	21.2			
BL	(0° - 30°)	1438.4	5.2	B3		
BM	(30° - 60°)	2974.0	10.7	B3		
BH	(60° - 80°)	1424.4	5.1	B3		G3
BVH	(80° - 90°)	43.5	0.2			G1
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		27692	100.0			

Zonal Lumen Summary

(Linear scale)

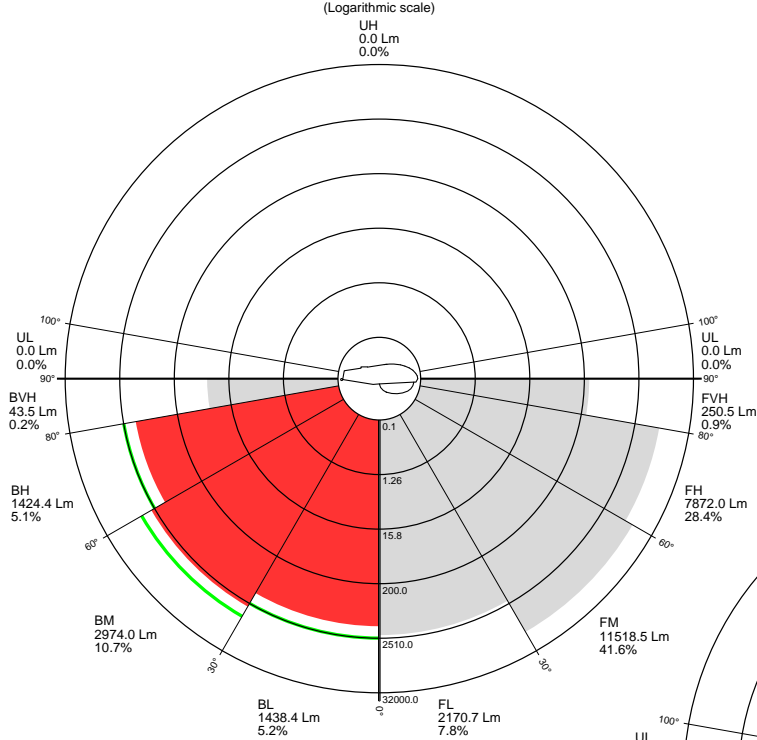
UH
0.0 Lm
0.0%



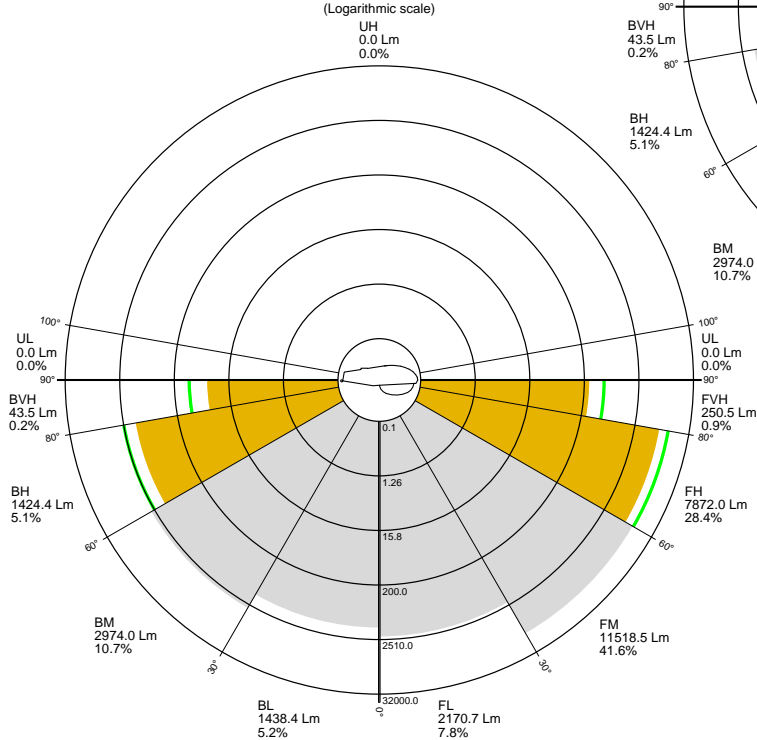
REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 6 OF 9
 DATE SAMPLE TESTED: 01/25/16

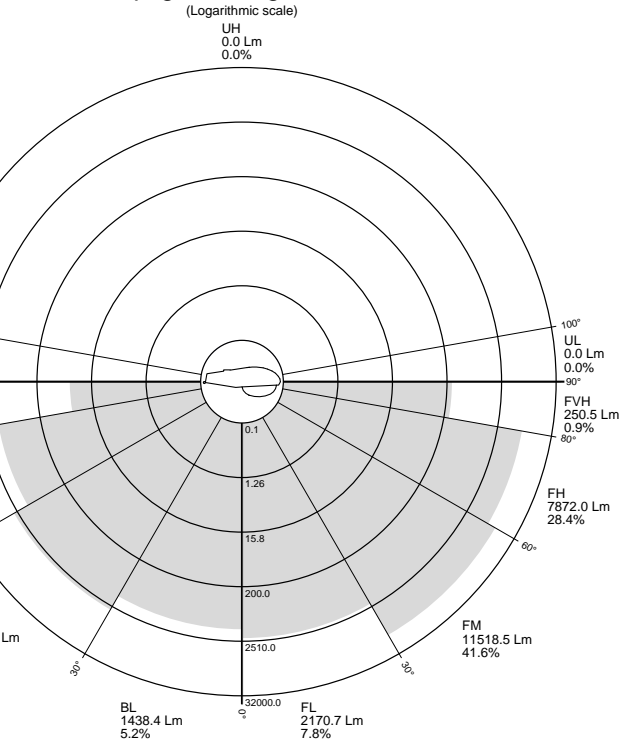
Backlight Rating Details



Glare Rating Details



Uplight Rating Details



REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 9
 DATE SAMPLE TESTED: 01/25/16

CANDELA TABULATION

	STREET SIDE	LATERAL ANGLE									
		0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	82.5 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	20.	19.	20.	22.	25.	24.	23.	23.	52.	92. 82.
	85.0	27.	22.	23.	26.	35.	36.	41.	168.	275.	473. 365.
V	82.5	30.	25.	27.	31.	44.	69.	423.	1055.	1686.	3257. 2492.
E	80.0	32.	27.	28.	35.	106.	660.	1452.	3238.	5935.	8292. 6667.
R	77.5	34.	29.	34.	178.	766.	2012.	3382.	5371.	11288.	12919. 10914.
T	75.0	46.	51.	151.	948.	2200.	3826.	5285.	8115.	15410.	16725. 15008.
I	72.5<<	374.	528.	1001.	2180.	3785.	5552.	6900.	12061.	17865.	20065. 19572.
C	70.0	1328.	1385.	2020.	3263.	4942.	6590.	9016.	14922.	18241.	19588. 19864.
A	67.5	2630.	2436.	3094.	4145.	5530.	7917.	12077.	16304.	16873.	16707. 16455.
L	65.0	3541.	3095.	3615.	4597.	6287.	9866.	14610.	16719.	15455.	14837. 15561.
	62.5	3791.	3425.	4041.	5262.	7525.	12207.	15933.	16562.	14480.	13932. 14539.
A	60.0	4307.	3964.	4669.	6347.	9561.	13872.	16229.	15866.	13702.	13009. 13216.
N	57.5	4944.	4588.	5658.	7990.	11480.	14829.	16105.	14859.	13009.	12304. 12193.
G	55.0	5787.	5456.	6742.	9619.	12439.	15067.	15491.	13768.	12332.	11635. 11392.
L	52.5	6730.	6372.	7401.	10534.	13070.	14850.	14348.	12722.	11579.	11111. 10976.
E	50.0	7232.	7032.	7815.	11181.	13072.	13998.	13306.	11791.	11039.	10764. 10657.
	47.5	7865.	7602.	7850.	11218.	12758.	12814.	12201.	10944.	10577.	10361. 10178.
	45.0	8400.	8131.	8244.	10829.	11922.	11521.	11111.	10277.	10314.	9933. 9721.
	42.5	8325.	8205.	8762.	10650.	10816.	10467.	10232.	9939.	9928.	9386. 9177.
	40.0	8120.	7974.	8557.	10212.	10082.	9799.	9699.	9676.	9393.	8764. 8530.
	37.5	7655.	7526.	7847.	8967.	9359.	9254.	9243.	9191.	8798.	8153. 7964.
	35.0	7032.	6977.	7062.	7859.	8496.	8565.	8648.	8542.	8109.	7551. 7389.
	30.0	5704.	5686.	5771.	6150.	6987.	7123.	7343.	7150.	6788.	6481. 6383.
	25.0	4956.	4931.	5009.	4994.	5535.	5878.	6155.	5984.	5790.	5729. 5741.
	20.0	4734.	4682.	4551.	4478.	4608.	5086.	5069.	5131.	5234.	5283. 5283.
	15.0	4828.	4750.	4495.	4409.	4351.	4306.	4542.	4520.	4565.	4614. 4634.
	10.0	4865.	4825.	4545.	4401.	4336.	4273.	4234.	4184.	4123.	4065. 4059.
	5.0	4705.	4720.	4625.	4519.	4369.	4252.	4176.	4086.	4091.	4022. 4014.
	0.0	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435. 4435.

||
 PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 8 OF 9
 DATE SAMPLE TESTED: 01/25/16

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.
	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	53.	26.	25.	18.	17.	21.	22.	19.	18.	18.
	85.0	217.	67.	86.	18.	16.	15.	18.	20.	18.	16.
V	82.5	1365.	472.	118.	26.	17.	14.	16.	18.	16.	15.
E	80.0	4447.	1981.	163.	39.	26.	13.	14.	16.	15.	13.
R	77.5	7157.	3757.	239.	193.	74.	21.	13.	15.	13.	12.
T	75.0	10183.	5449.	388.	422.	152.	49.	19.	17.	15.	12.
I	72.5	15769.	8426.	866.	408.	220.	89.	32.	26.	23.	14.
C	70.0	16859.	10137.	1804.	436.	290.	127.	58.	34.	29.	18.
A	67.5	14958.	11660.	2440.	520.	301.	172.	78.	48.	41.	23.
L	65.0	15792.	12646.	2688.	487.	211.	187.	105.	57.	52.	32.
	62.5	15333.	12009.	3478.	529.	270.	180.	123.	64.	60.	36.
A	60.0	13272.	11624.	4942.	1203.	434.	197.	124.	78.	67.	48.
N	57.5	12086.	11066.	5760.	2363.	562.	278.	152.	85.	72.	48.
G	55.0	11568.	10895.	6160.	3022.	762.	386.	329.	112.	66.	46.
L	52.5	10749.	10059.	6300.	2964.	1074.	377.	479.	242.	83.	50.
E	50.0	10500.	10002.	6779.	2964.	1334.	458.	352.	510.	245.	97.
	47.5	10087.	9933.	7218.	3212.	1494.	771.	290.	466.	417.	257.
	45.0	9506.	9299.	7194.	3542.	1672.	937.	447.	350.	276.	231.
	42.5	8879.	8538.	6891.	3876.	1864.	1096.	607.	573.	211.	183.
	40.0	8303.	8033.	6768.	4167.	2107.	1295.	772.	484.	267.	124.
	37.5	7736.	7545.	6621.	4451.	2412.	1446.	991.	580.	298.	240.
	35.0	7218.	7103.	6473.	4662.	2758.	1659.	1206.	739.	372.	443.
	30.0	6400.	6404.	5962.	4879.	3475.	2337.	1581.	950.	563.	741.
	25.0	5802.	5753.	5564.	5026.	4071.	3067.	2138.	1328.	811.	891.
	20.0	5337.	5330.	5111.	4820.	4260.	3601.	2741.	1973.	1582.	1541.
	15.0	4660.	4648.	4484.	4281.	3990.	3641.	3209.	2842.	2820.	3022.
	10.0	4039.	4005.	3935.	3778.	3687.	3660.	3559.	3562.	3757.	3976.
	5.0	4001.	3950.	3928.	3862.	3861.	3900.	3950.	4050.	4168.	4218.
	0.0	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435.	4435.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB01656
 ISSUE DATE: 01/25/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9
 DATE SAMPLE TESTED: 01/25/16

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	103
5- 10	293
10- 15	482
15- 20	679
20- 25	894
25- 30	1159
30- 35	1499
35- 40	1904
40- 45	2306
45- 50	2692
50- 55	2987
55- 60	3104
60- 65	3014
65- 70	2830
70- 75	2279
75- 80	1173
80- 85	277
85- 90	17
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	395
0- 20	1556
0- 30	3609
0- 40	7013
0- 50	12010
0- 60	18102
0- 70	23945
0- 80	27398
0- 90	27692
0-100	27692
0-110	27692
0-120	27692
0-130	27692
0-140	27692
0-150	27692
0-160	27692
0-170	27692
0-180	27692

REPORT NUMBER: RAB01659
DATE: 1/22/2016
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: ALED2T260N/D10 - ALED2T260SFN/D10 - WPLED2T260N/D10 - WPLED2T260NFX/D10 (TYPE II)
ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647
LUMINAIRE: CAST FINNED METAL HOUSING, 4 CHIP ON BOARD LIGHT EMITTING DIODES, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, CLEAR GLASS LENS IN CAST BRONZE PAINTED METAL FRAME.
LAMP: FOUR WHITE LIGHT EMITTING DIODES (LEDS)
DRIVER: RD-240-S2200-D
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
CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202
OCEAN OPTICS QE65PRO Spectroradiometer
RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry
Calibration Due: N/A
3/9/16
1/5/17
1/5/17
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 (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: RAB01659
 DATE: 1/22/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T260N/D10 - ALED2T260SFN/D10 - WPLED2T260N/D10 - WPLED2T260NFX/D10 (TYPE II)

Page 2 of 4

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	27692 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3751
Chromaticity Ordinate y	0.3814
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2198
Chromaticity Ordinate v'	0.5028
Correlated Color Temp CCT (K)	4180
ANSI C78.377-2008 Duv	0.004
Total Radiant Flux (milliWatts)	78982 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	2.21
Input Power (Watts)	264.6
Input Power Factor (%)	99.8
Input Current THD (%)	4.7
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	104.7
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.965
Input Power (Watts)	258.5
Input Power Factor (%)	96.7
Input Current THD (%)	7.2
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	71
R1 Light greyish red	67
R2 Dark greyish yellow	76
R3 Strong yellowish green	84
R4 Moderate yellowish green	71
R5 Light bluish green	68
R6 Light blue	67
R7 Light violet	81
R8 Light reddish purple	52
R9 Strong red	-36
R10 Strong yellow	44
R11 Strong green	67
R12 Strong blue	41
R13 Light yellowish pink (skin)	68
R14 Moderate olive green (leaf)	91

*NOTE:

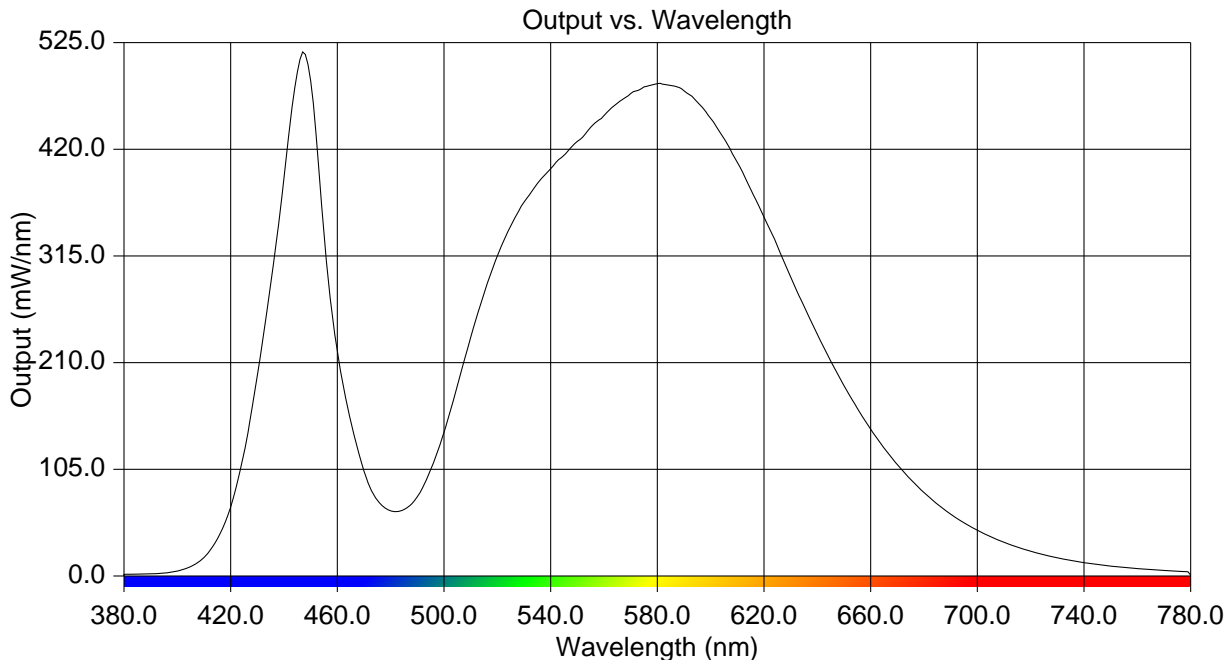
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB01659
 DATE: 1/22/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T260N/D10 - ALED2T260SFN/D10 - WPLED2T260N/D10 - WPLED2T260NFX/D10
 (TYPE II)

Page 3 of 4

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	1.543	515	277.932	650	187.227
385	1.658	520	315.096	655	165.025
390	2.100	525	344.982	660	144.421
395	3.011	530	367.998	665	126.100
400	4.832	535	386.309	670	109.609
405	9.145	540	400.639	675	95.057
410	18.284	545	414.093	680	82.092
415	36.438	550	427.853	685	70.781
420	67.849	555	441.502	690	60.931
425	120.559	560	453.224	695	52.381
430	197.398	565	465.662	700	44.925
435	286.716	570	474.867	705	38.619
440	392.081	575	481.475	710	33.167
445	495.885	580	484.636	715	28.372
450	487.505	585	482.664	720	24.416
455	339.106	590	477.632	725	20.895
460	219.813	595	466.317	730	17.853
465	153.177	600	450.486	735	15.317
470	103.157	605	431.194	740	13.179
475	74.535	610	407.169	745	11.324
480	64.226	615	380.734	750	9.787
485	65.250	620	353.317	755	8.393
490	78.058	625	324.952	760	7.284
495	104.130	630	294.327	765	6.317
500	142.013	635	265.664	770	5.457
505	186.916	640	237.938	775	4.696
510	234.794	645	211.830	780	0.708



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CIE Chromaticity Diagram

