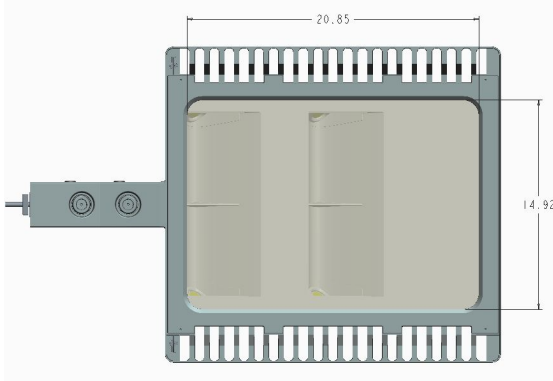


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 35 foot mounting height.



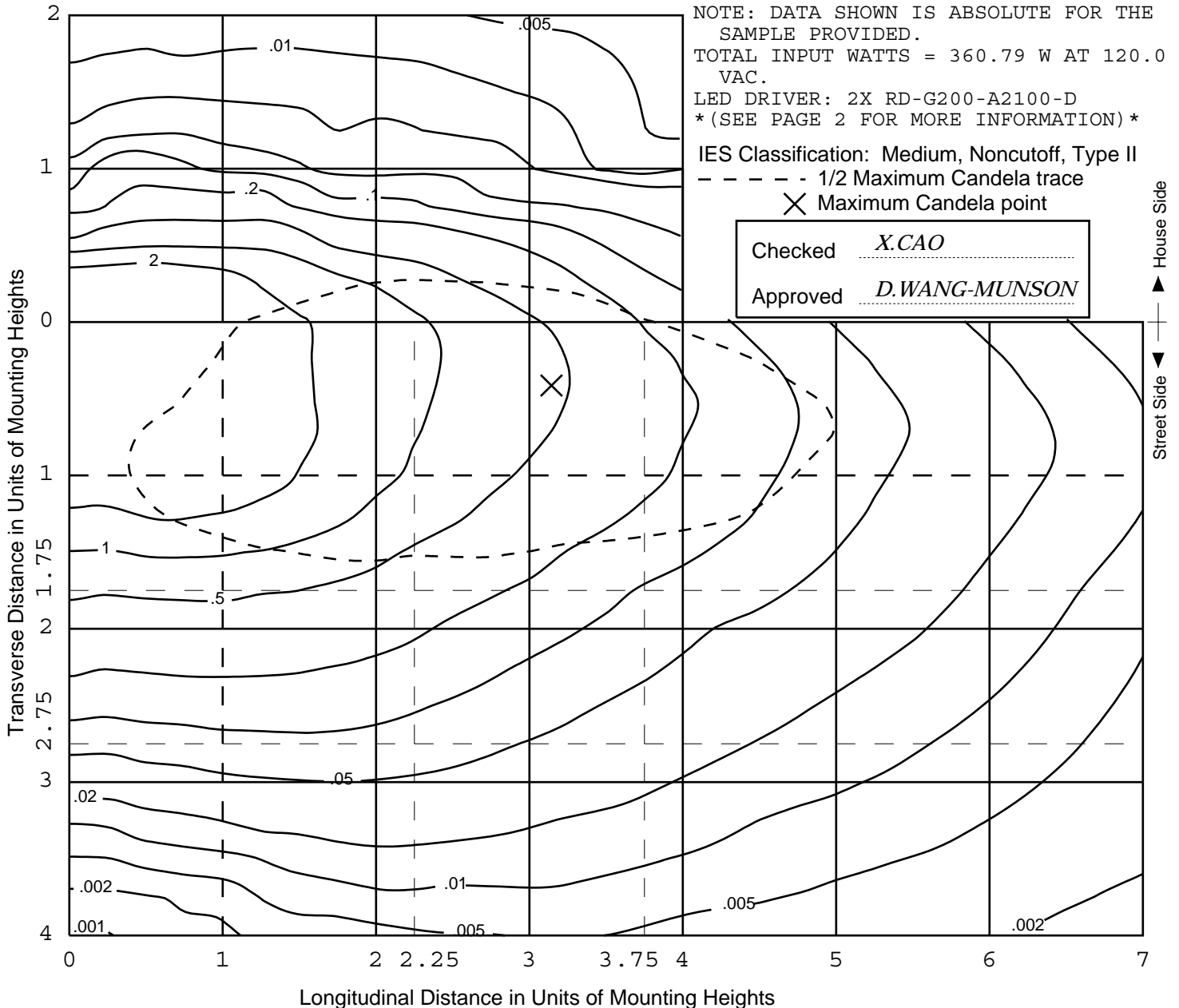
REPORT NUMBER: RAB01573
 ISSUE DATE: 01/12/16 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T360Y/D10 -
 ALED2T360SFY/D10 - WPLED2T360Y/D10 -
 WPLED2T360YFX/D10 (TYPE II)
 LUMINAIRE: CAST FINNED METAL HOUSING, 4
 CIRCUIT BOARDS EACH WITH 1 LED,
 MOLDED 2-PIECE PLASTIC REFLECTOR WITH
 SPECULAR FINISH AND 1 APERTURE PER
 LED, CLEAR FLAT GLASS LENS IN CAST
 BRONZE PAINTED METAL LENS FRAME.
 LAMPS: FOUR WHITE LIGHT EMITTING DIODES
 (LEDs)

NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.
 TOTAL INPUT WATTS = 360.79 W AT 120.0
 VAC.

LED DRIVER: 2X RD-G200-A2100-D
 (SEE PAGE 2 FOR MORE INFORMATION)

IES Classification: Medium, Noncutoff, Type II

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



REPORT NUMBER: RAB01573
ISSUE DATE: 01/12/16
PREPARED FOR: RAB LIGHTING INC.

PAGE: 2 OF 9
DATE SAMPLE TESTED: 01/12/16

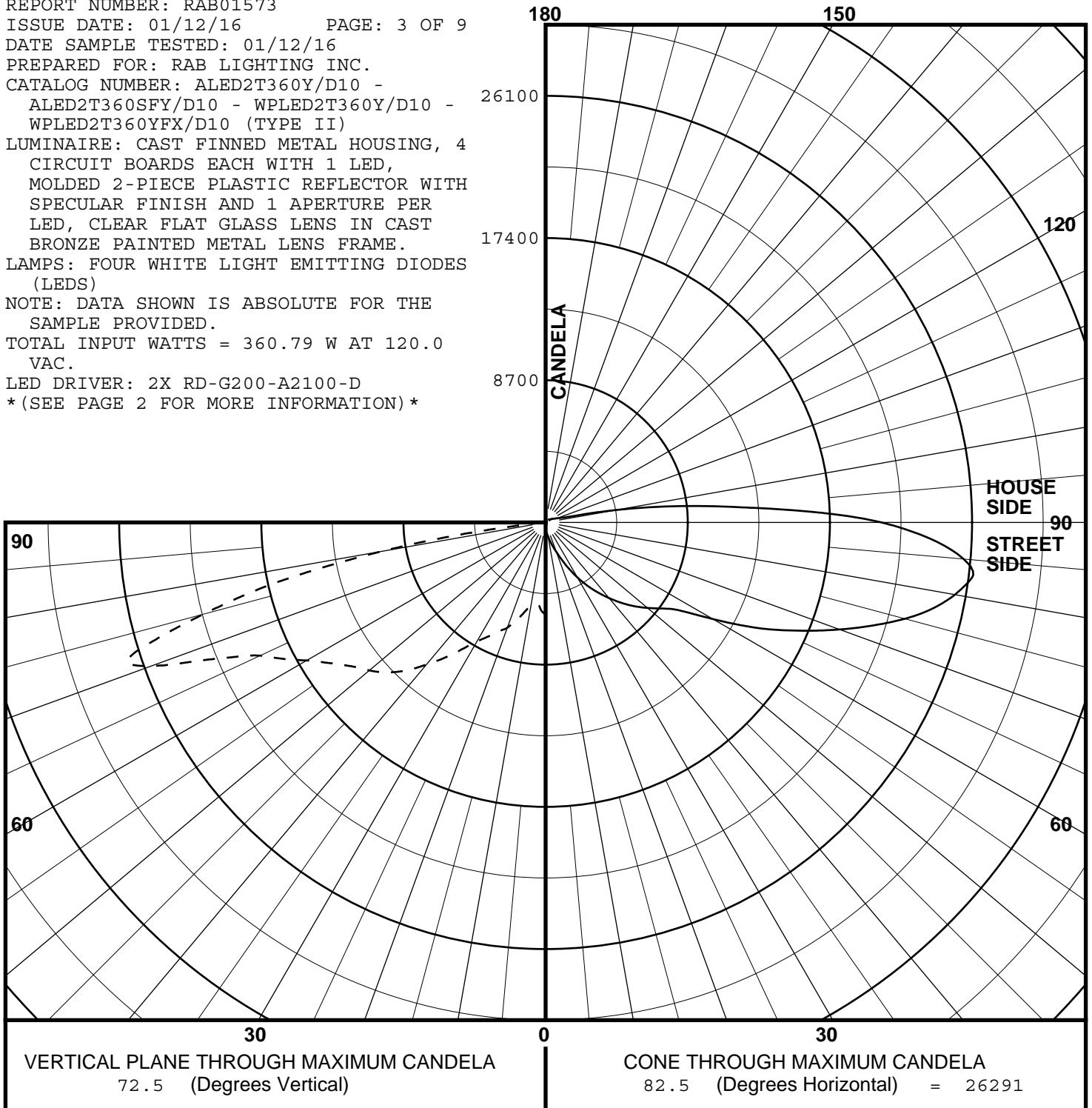
ADDITIONAL INFORMATION

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

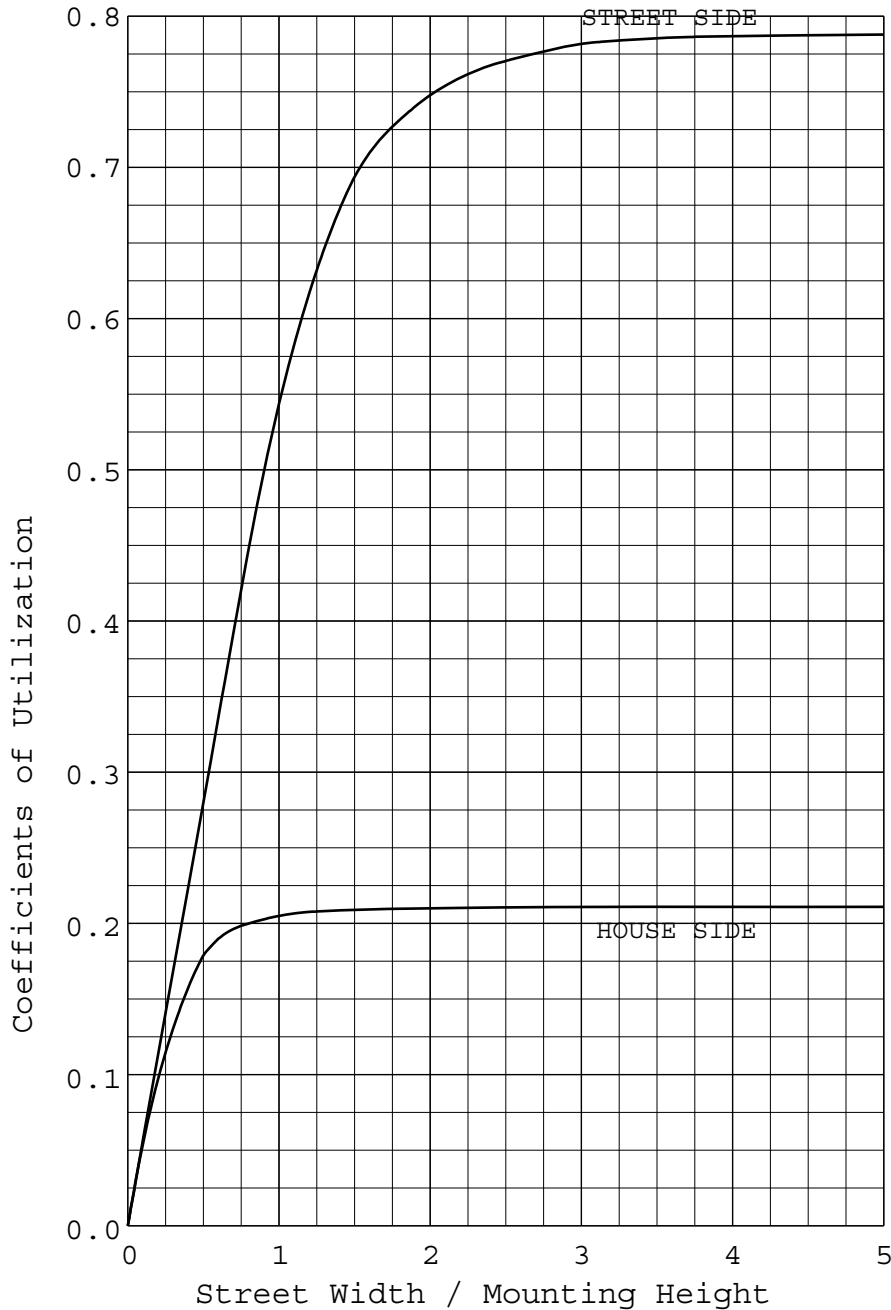
REPORT NUMBER: RAB01573
 ISSUE DATE: 01/12/16 PAGE: 3 OF 9
 DATE SAMPLE TESTED: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T360Y/D10 -
 ALED2T360SFY/D10 - WPLED2T360Y/D10 -
 WPLED2T360YFX/D10 (TYPE II)
 LUMINAIRE: CAST FINNED METAL HOUSING, 4
 CIRCUIT BOARDS EACH WITH 1 LED,
 MOLDED 2-PIECE PLASTIC REFLECTOR WITH
 SPECULAR FINISH AND 1 APERTURE PER
 LED, CLEAR FLAT GLASS LENS IN CAST
 BRONZE PAINTED METAL LENS FRAME.
 LAMPS: FOUR WHITE LIGHT EMITTING DIODES
 (LEDS)
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.
 TOTAL INPUT WATTS = 360.79 W AT 120.0
 VAC.
 LED DRIVER: 2X RD-G200-A2100-D
 (SEE PAGE 2 FOR MORE INFORMATION)



REPORT NUMBER: RAB01573
ISSUE DATE: 01/12/16
PREPARED FOR: RAB LIGHTING INC.

PAGE: 4 OF 9
DATE SAMPLE TESTED: 01/12/16

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	28336.	78.8
DOWNWARD HOUSE SIDE	7603.	21.2
DOWNWARD TOTAL	35939.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	35939.	100.0
TOTAL INPUT WATTS = 360.8		
EFFICACY = 99.6 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: RAB01573
 ISSUE DATE: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.

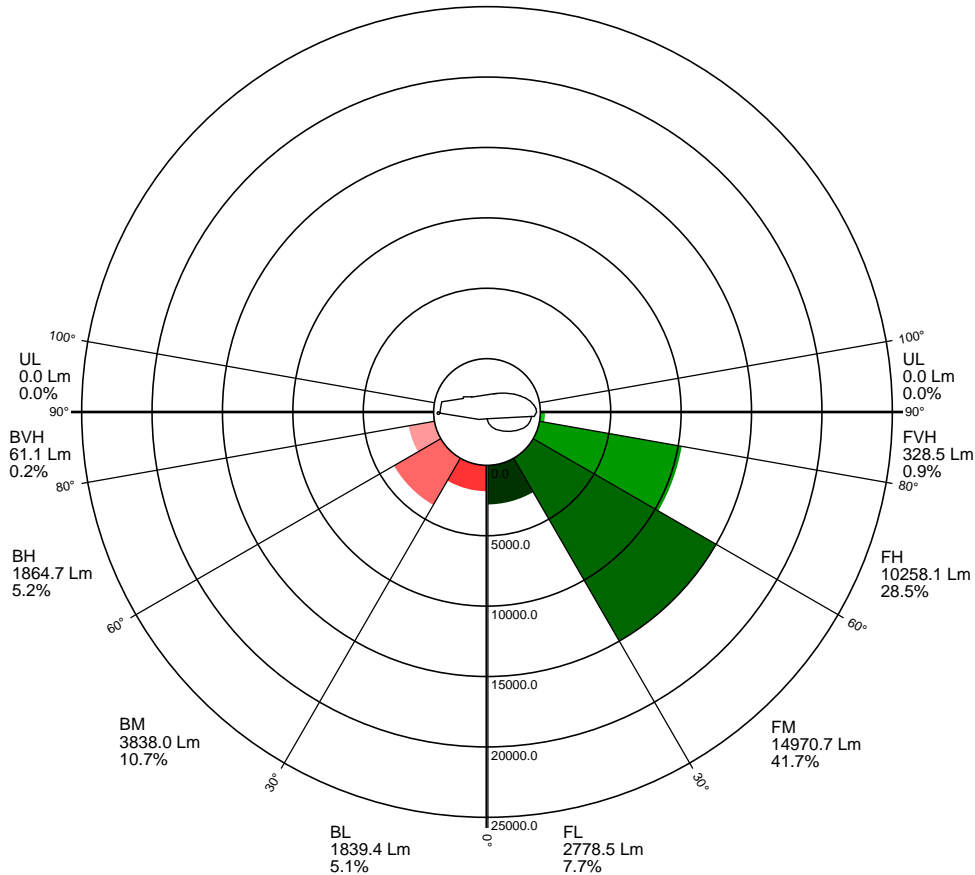
PAGE: 5 OF 9
 DATE SAMPLE TESTED: 01/12/16

BUG Rating:				B3	U0	G4
Zonal Summary		Lumens	% of Fixture	Zone Ratings		
				B	U	G
Forward		28336	78.8			
FL	(0° – 30°)	2778.5	7.7			
FM	(30° – 60°)	14970.7	41.7			
FH	(60° – 80°)	10258.1	28.5			G4
FVH	(80° – 90°)	328.5	0.9			G3
Backward		7603	21.2			
BL	(0° – 30°)	1839.4	5.1	B3		
BM	(30° – 60°)	3838.0	10.7	B3		
BH	(60° – 80°)	1864.7	5.2	B3		G3
BVH	(80° – 90°)	61.1	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		35939	100.0			

Zonal Lumen Summary

(Linear scale)

UH
0.0 Lm
0.0%

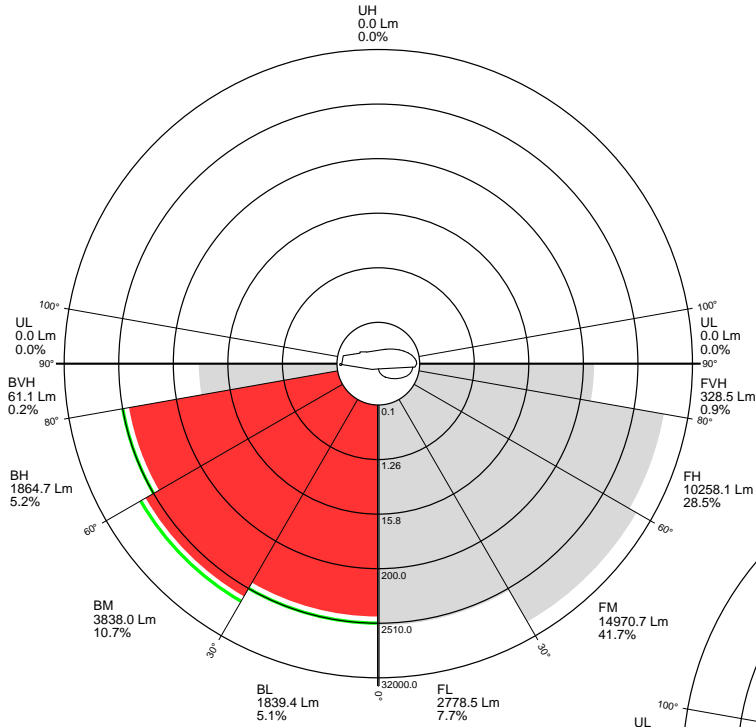


REPORT NUMBER: RAB01573
 ISSUE DATE: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 6 OF 9
 DATE SAMPLE TESTED: 01/12/16

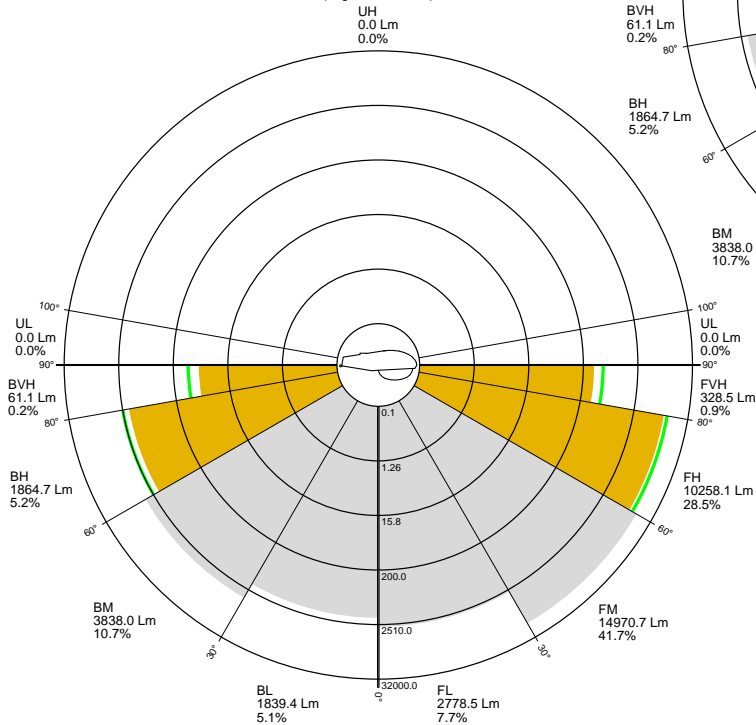
Backlight Rating Details

(Logarithmic scale)



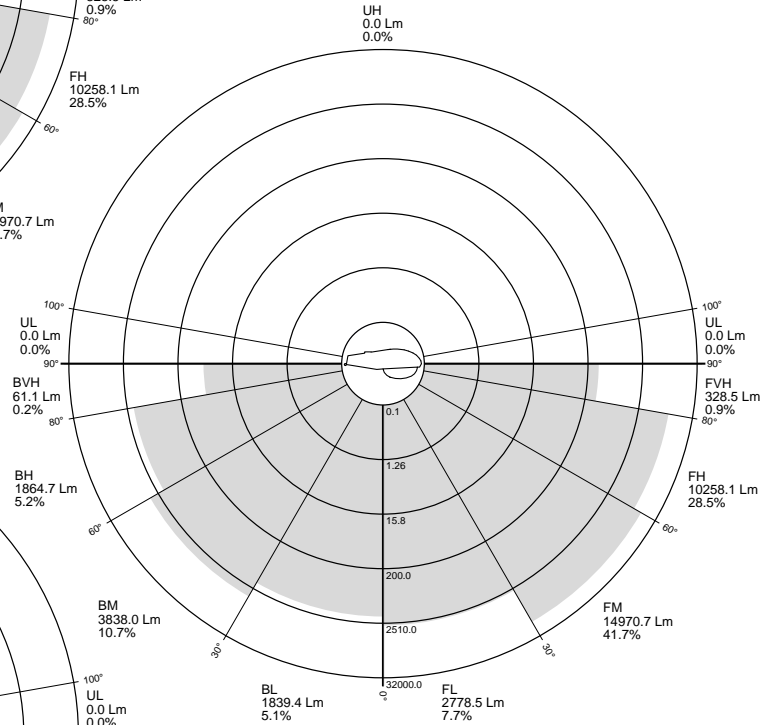
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



	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	31.	31.	32.	36.	40.	38.	37.	36.	64.	133.
	85.0	43.	40.	41.	45.	60.	61.	71.	240.	341.	448.
V	82.5	49.	49.	52.	56.	78.	132.	607.	1545.	2081.	3206.
E	80.0	58.	57.	59.	67.	211.	832.	2078.	4290.	7652.	10212.
R	77.5	68.	67.	74.	246.	1036.	2606.	4632.	7079.	14269.	16720.
T	75.0	90.	96.	251.	1164.	2913.	4911.	7080.	11053.	19524.	21685.
I	72.5<<	585.	640.	1323.	2795.	4970.	7122.	9205.	15545.	22764.	26291.
C	70.0	1831.	1837.	2710.	4305.	6361.	8665.	12066.	19250.	23576.	25691.
A	67.5	3468.	3249.	4072.	5419.	7197.	10390.	15858.	21055.	21617.	21772.
L	65.0	4518.	4115.	4735.	6052.	8237.	12984.	19019.	21575.	19844.	19284.
	62.5	4907.	4507.	5313.	6941.	10111.	16017.	20665.	21383.	18573.	18076.
A	60.0	5593.	5190.	6272.	8385.	12765.	18073.	21137.	20528.	17656.	16884.
N	57.5	6448.	6002.	7631.	10528.	15061.	19251.	20882.	19319.	16772.	15959.
G	55.0	7631.	7143.	8764.	12605.	16346.	19591.	20099.	17929.	15959.	15193.
L	52.5	8711.	8256.	9634.	13849.	16977.	19198.	18732.	16612.	15196.	14559.
E	50.0	9461.	9074.	10115.	14439.	16881.	18356.	17286.	15472.	14442.	14084.
	47.5	10183.	9776.	10283.	14509.	16442.	16910.	15866.	14427.	13936.	13568.
	45.0	10672.	10349.	10830.	14045.	15572.	15296.	14519.	13623.	13503.	12929.
	42.5	10555.	10340.	11245.	13894.	14093.	13783.	13469.	13090.	12934.	12192.
	40.0	10286.	10092.	10878.	13046.	13086.	12796.	12667.	12608.	12175.	11355.
	37.5	9811.	9573.	9977.	11461.	12071.	12093.	11971.	12025.	11324.	10567.
	35.0	8989.	8861.	8987.	10027.	10910.	11150.	11182.	11099.	10426.	9783.
	30.0	7218.	7131.	7333.	7786.	8960.	9178.	9449.	9189.	8749.	8392.
	25.0	6289.	6213.	6321.	6348.	6998.	7537.	7846.	7738.	7578.	7520.
	20.0	6058.	5946.	5725.	5708.	5826.	6522.	6524.	6652.	6755.	6859.
	15.0	6189.	6074.	5684.	5643.	5606.	5512.	5800.	5755.	5835.	5947.
	10.0	6252.	6181.	5783.	5539.	5508.	5460.	5356.	5348.	5286.	5231.
	5.0	5991.	6034.	5899.	5716.	5516.	5355.	5231.	5194.	5166.	5080.
	0.0	5660.									

REPORT NUMBER: RAB01573
 ISSUE DATE: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 8 OF 9
 DATE SAMPLE TESTED: 01/12/16

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.	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	74.	43.	40.	29.	28.	30.	36.	37.	33.	31.	31.
85.0	242.	120.	112.	36.	30.	31.	37.	39.	36.	33.	33.
V 82.5	1606.	603.	170.	53.	36.	33.	38.	41.	38.	36.	36.
E 80.0	5529.	2579.	223.	74.	53.	36.	40.	43.	41.	39.	39.
R 77.5	9721.	4908.	306.	263.	120.	52.	43.	45.	44.	42.	42.
T 75.0	13619.	6926.	462.	529.	220.	94.	54.	51.	48.	46.	46.
I 72.5	<20573.	11089.	1106.	551.	305.	145.	72.	63.	59.	52.	50.
C 70.0	21805.	13608.	2257.	589.	381.	184.	100.	77.	70.	59.	56.
A 67.5	19478.	14751.	3161.	691.	375.	247.	133.	95.	84.	67.	64.
L 65.0	20402.	16222.	3546.	652.	325.	261.	170.	108.	100.	79.	78.
62.5	19678.	15671.	4457.	694.	384.	266.	183.	118.	108.	87.	87.
A 60.0	16942.	14838.	6167.	1472.	576.	274.	186.	133.	119.	98.	90.
N 57.5	15540.	14195.	7373.	2871.	757.	371.	215.	146.	127.	103.	96.
G 55.0	14678.	13777.	7919.	3786.	1042.	536.	431.	155.	120.	98.	97.
L 52.5	13913.	12980.	8115.	3862.	1404.	516.	609.	331.	130.	97.	101.
E 50.0	13620.	12938.	8703.	3850.	1718.	615.	517.	679.	323.	126.	115.
47.5	13165.	12786.	9304.	4184.	1906.	989.	381.	641.	605.	367.	230.
45.0	12357.	11996.	9326.	4566.	2119.	1201.	562.	474.	430.	360.	214.
42.5	11588.	11144.	8875.	4967.	2390.	1362.	787.	663.	297.	288.	150.
40.0	10779.	10517.	8735.	5335.	2724.	1611.	943.	670.	386.	206.	123.
37.5	10048.	9873.	8577.	5702.	3110.	1827.	1183.	768.	429.	259.	262.
35.0	9425.	9288.	8398.	5987.	3547.	2136.	1461.	937.	514.	449.	472.
30.0	8373.	8315.	7748.	6306.	4461.	2945.	2004.	1263.	788.	844.	899.
25.0	7604.	7551.	7248.	6494.	5195.	3849.	2719.	1738.	1070.	1035.	1087.
20.0	6888.	6900.	6666.	6192.	5406.	4560.	3459.	2523.	1902.	1824.	1849.
15.0	5924.	5915.	5737.	5469.	5162.	4700.	4120.	3581.	3374.	3646.	3729.
10.0	5207.	5178.	5031.	4915.	4764.	4690.	4550.	4514.	4773.	5080.	5161.
5.0	5080.	5013.	4965.	4915.	4866.	4953.	5041.	5204.	5337.	5426.	5454.
0.0	5660.	5660.	5660.	5660.	5660.	5660.	5660.	5660.	5660.	5660.	5660.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB01573
 ISSUE DATE: 01/12/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9
 DATE SAMPLE TESTED: 01/12/16

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	130
5- 10	373
10- 15	615
15- 20	866
20- 25	1146
25- 30	1488
30- 35	1928
35- 40	2457
40- 45	2996
45- 50	3508
50- 55	3886
55- 60	4034
60- 65	3923
65- 70	3684
70- 75	2974
75- 80	1541
80- 85	364
85- 90	26
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	504
0- 20	1984
0- 30	4618
0- 40	9003
0- 50	15507
0- 60	23427
0- 70	31034
0- 80	35550
0- 90	35939
0-100	35939
0-110	35939
0-120	35939
0-130	35939
0-140	35939
0-150	35939
0-160	35939
0-170	35939
0-180	35939

REPORT NUMBER: RAB01576
DATE: 1/13/2016
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: ALED2T360Y/D10 - ALED2T360SFY/D10 - WPLED2T360Y/D10 - WPLED2T360YFX/D10 (TYPE II)
ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647
LUMINAIRE: CAST FINNED METAL HOUSING, 4 CIRCUIT BOARDS EACH WITH 1 LED, MOLDED 2-PIECE PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST BRONZE PAINTED METAL LENS FRAME.
LAMP: FOUR WHITE LIGHT EMITTING DIODES (LEDs)
DRIVER: 2X RD-G200-A2100-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 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: RAB01576
 DATE: 1/13/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T360Y/D10 - ALED2T360SFY/D10 - WPLED2T360Y/D10 - WPLED2T360YFX/D10 (TYPE II)

Page 2 of 4

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	35939 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4251
Chromaticity Ordinate y	0.4056
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2423
Chromaticity Ordinate v'	0.5202
Correlated Color Temp CCT (K)	3221
ANSI C78.377-2008 Duv	0.002
Total Radiant Flux (milliWatts)	100262 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	3.01
Input Power (Watts)	360.8
Input Power Factor (%)	99.8
Input Current THD (%)	5.9
Input Voltage THD (%)	0.6
EFFICACY (Lumens/Watt)	
	99.6
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	1.33
Input Power (Watts)	351.6
Input Power Factor (%)	95.7
Input Current THD (%)	8.9
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	70
R1 Light greyish red	66
R2 Dark greyish yellow	79
R3 Strong yellowish green	91
R4 Moderate yellowish green	66
R5 Light bluish green	65
R6 Light blue	71
R7 Light violet	79
R8 Light reddish purple	44
R9 Strong red	-38
R10 Strong yellow	52
R11 Strong green	59
R12 Strong blue	42
R13 Light yellowish pink (skin)	68
R14 Moderate olive green (leaf)	95

*NOTE:

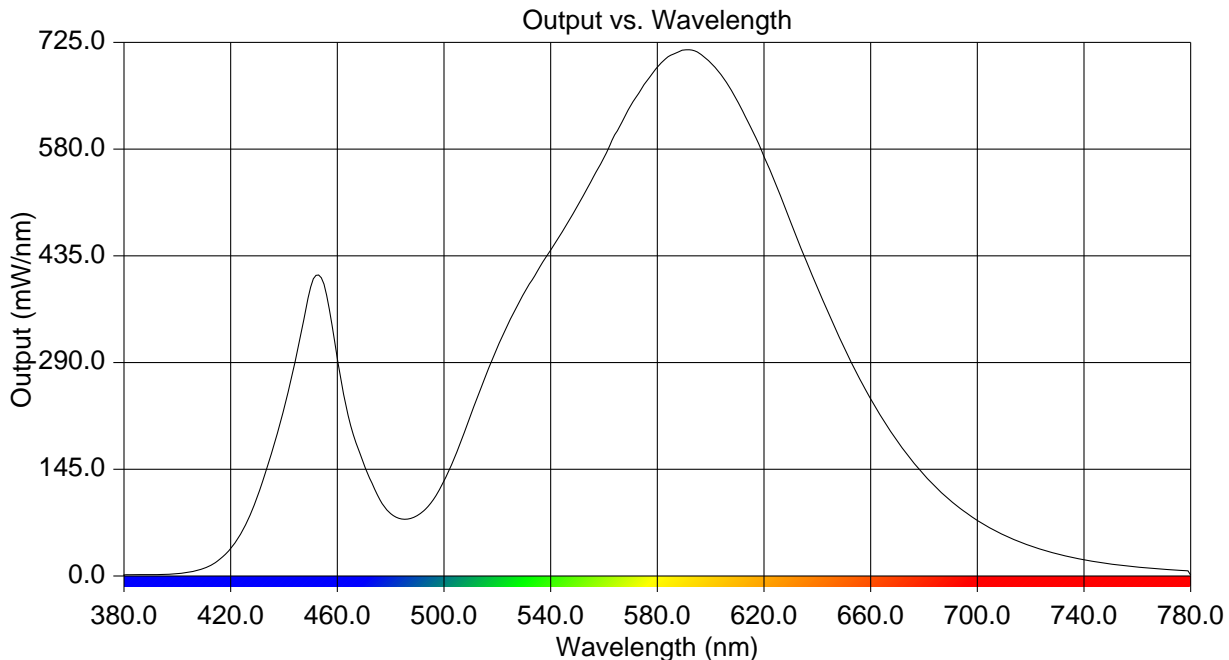
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB01576
 DATE: 1/13/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED2T360Y/D10 - ALED2T360SFY/D10 - WPLED2T360Y/D10 - WPLED2T360YFX/D10
 (TYPE II)

Page 3 of 4

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	1.473	515	266.186	650	310.698
385	1.631	520	311.206	655	274.148
390	1.742	525	349.768	660	240.579
395	2.205	530	384.302	665	210.290
400	3.315	535	414.278	670	183.191
405	5.512	540	442.892	675	159.081
410	10.298	545	471.870	680	137.363
415	20.162	550	502.501	685	118.826
420	37.283	555	535.377	690	102.079
425	65.473	560	568.402	695	88.044
430	107.620	565	605.113	700	75.360
435	163.218	570	639.385	705	64.757
440	227.220	575	667.918	710	55.590
445	305.534	580	691.537	715	47.679
450	392.804	585	707.899	720	40.900
455	396.737	590	715.205	725	34.903
460	295.663	595	712.343	730	30.001
465	204.482	600	697.598	735	25.637
470	151.250	605	675.893	740	21.958
475	110.412	610	645.931	745	19.010
480	84.662	615	610.166	750	16.390
485	77.010	620	570.083	755	14.043
490	82.215	625	527.780	760	12.199
495	98.831	630	480.419	765	10.562
500	129.173	635	435.870	770	9.086
505	170.026	640	392.580	775	7.836
510	218.327	645	350.649	780	1.186



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CIE Chromaticity Diagram

