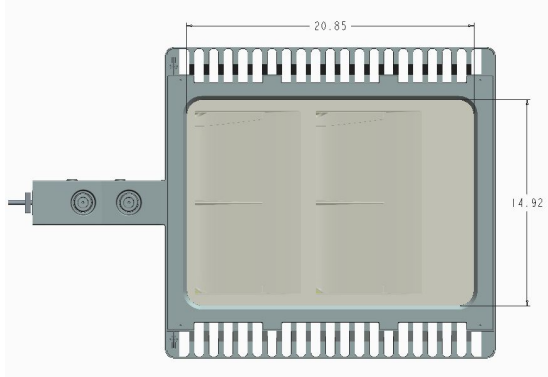


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 25 foot mounting height.



REPORT NUMBER: RAB01814
 ISSUE DATE: 03/31/16 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED3T260Y/D10 -
 ALED3T260SFY/D10 - WPLED3T260Y/D10 -
 WPLED3T260YFX/D10 (TYPE III)
 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)

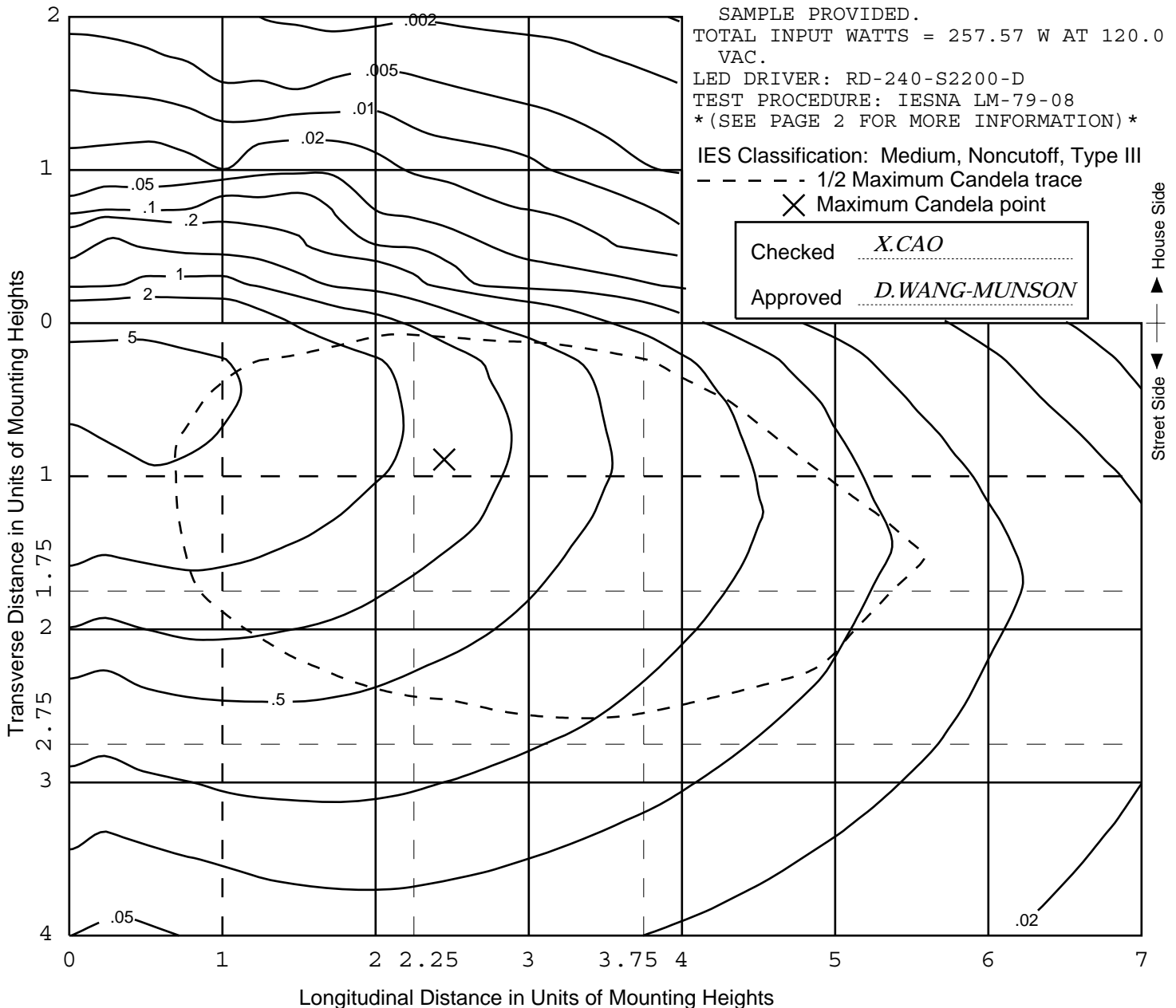
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
 SAMPLE PROVIDED.
 TOTAL INPUT WATTS = 257.57 W AT 120.0
 VAC.

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

IES Classification: Medium, Noncutoff, Type III

--- 1/2 Maximum Candela trace

X Maximum Candela point



REPORT NUMBER: RAB01814
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PAGE: 2 OF 9
DATE SAMPLE TESTED: 03/31/16

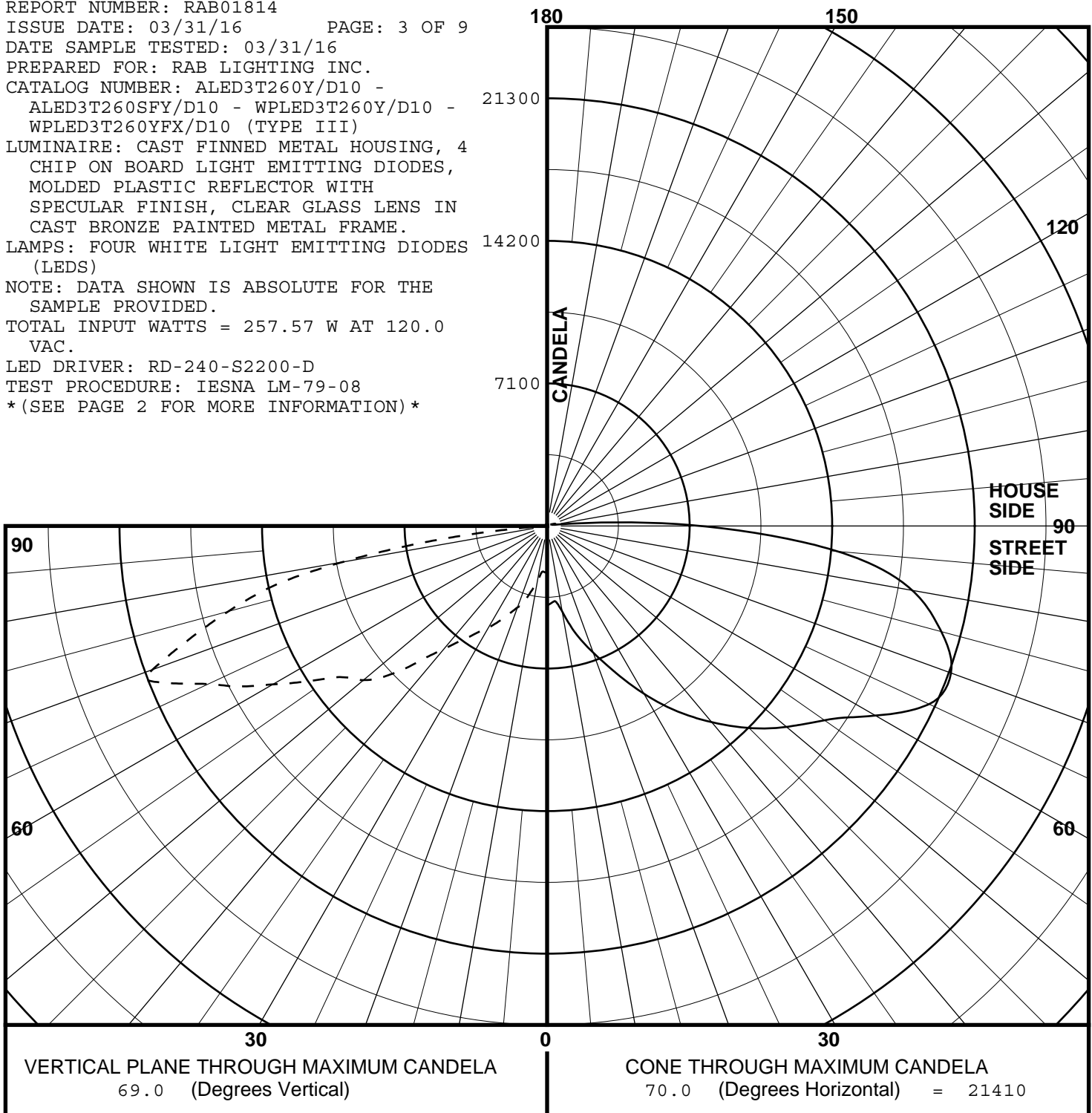
ADDITIONAL INFORMATION

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: RAB01814
 ISSUE DATE: 03/31/16 PAGE: 3 OF 9
 DATE SAMPLE TESTED: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED3T260Y/D10 -
 ALED3T260SFY/D10 - WPLED3T260Y/D10 -
 WPLED3T260YFX/D10 (TYPE III)
 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 = 257.57 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: RAB01814

ISSUE DATE: 03/31/16

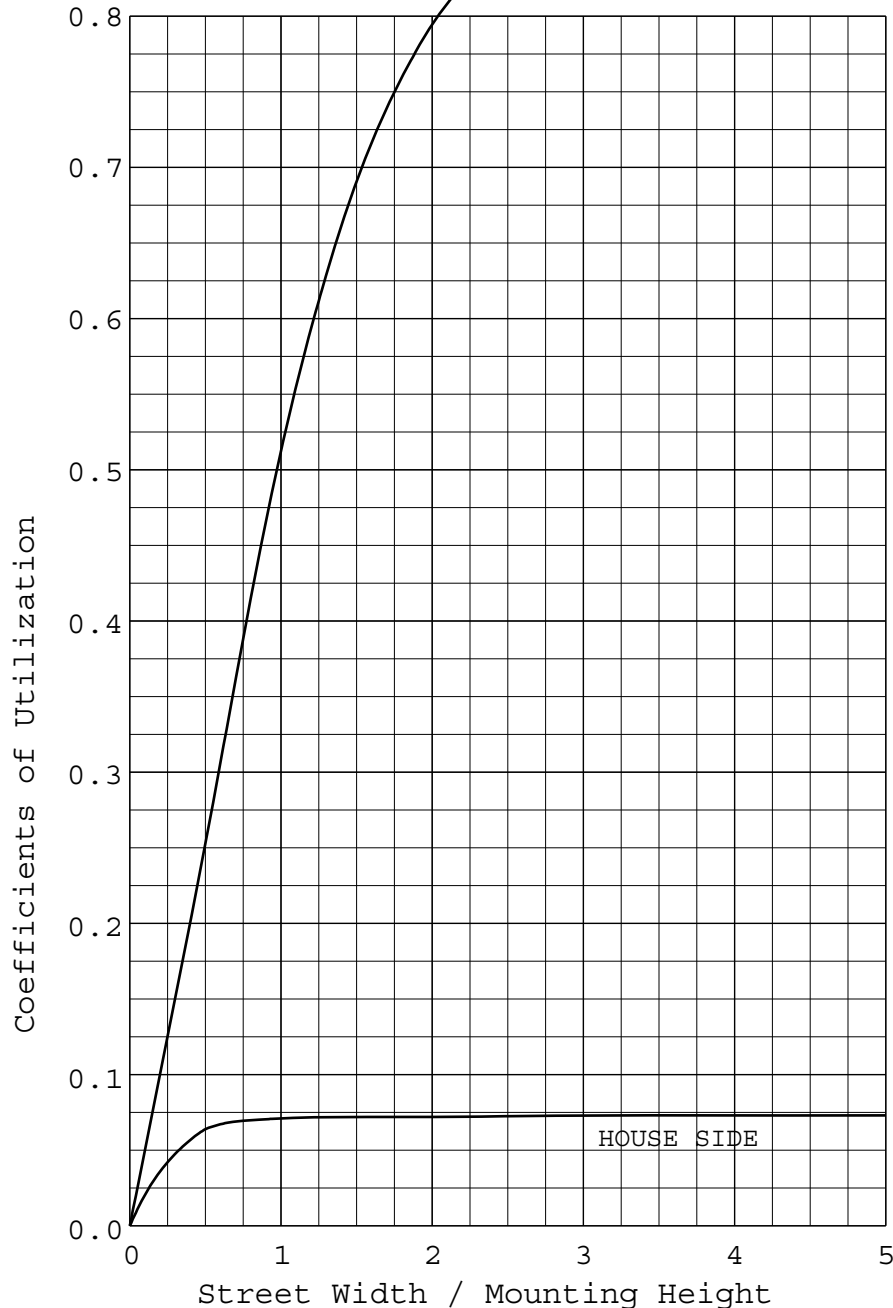
PREPARED FOR: RAB LIGHTING INC.

STREET SIDE

PAGE: 4 OF 9

DATE SAMPLE TESTED: 03/31/16

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	24346.	92.6
DOWNWARD HOUSE SIDE	1943.	7.4
DOWNWARD TOTAL	26289.	100.0
UPWARD STREET SIDE	0.	0.0
UPWARD HOUSE SIDE	0.	0.0
UPWARD TOTAL	0.	0.0
TOTAL FLUX	26289.	100.0

TOTAL INPUT WATTS = 257.6

EFFICACY = 102.1 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: RAB01814
 ISSUE DATE: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.

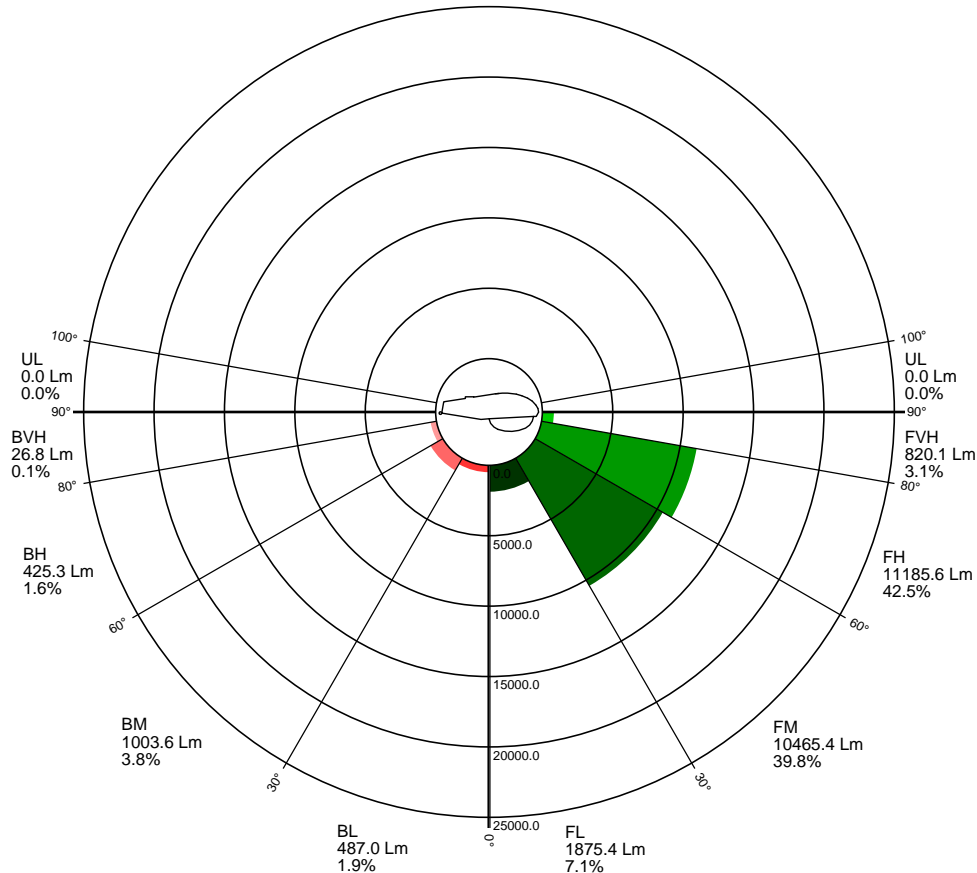
PAGE: 5 OF 9
 DATE SAMPLE TESTED: 03/31/16

BUG Rating:				B2 U0 G5		
Zonal Summary		Lumens	% of Fixture	Zone Ratings		
				B	U	G
Forward		24346	92.6			
FL	(0° - 30°)	1875.4	7.1			
FM	(30° - 60°)	10465.4	39.8			
FH	(60° - 80°)	11185.6	42.5			G4
FVH	(80° - 90°)	820.1	3.1			G5
Backward		1943	7.4			
BL	(0° - 30°)	487.0	1.9	B1		
BM	(30° - 60°)	1003.6	3.8	B2		
BH	(60° - 80°)	425.3	1.6	B1		G1
BVH	(80° - 90°)	26.8	0.1			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		26289	100.0			

Zonal Lumen Summary

(Linear scale)

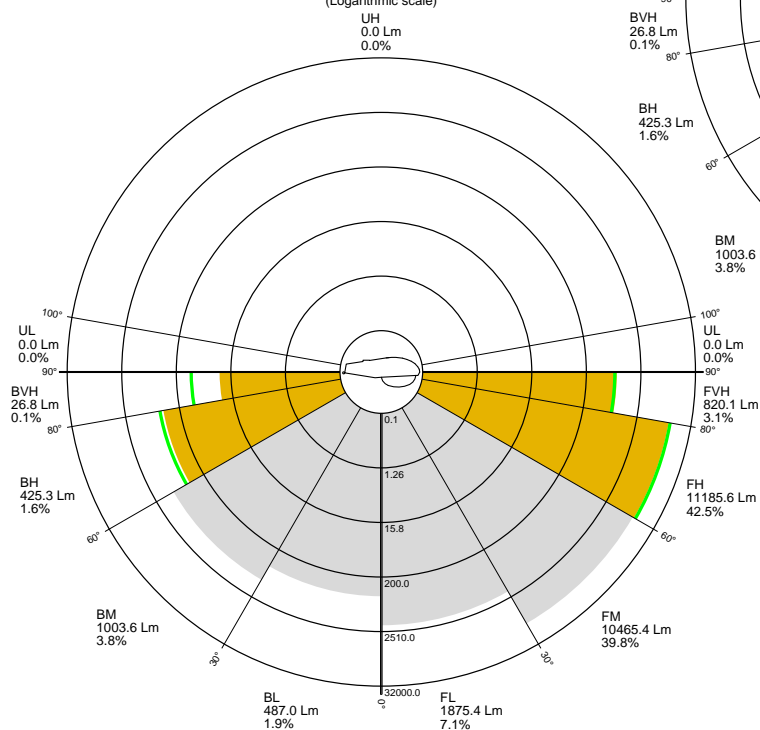
UH
0.0 Lm
0.0%



(Logarithmic scale)

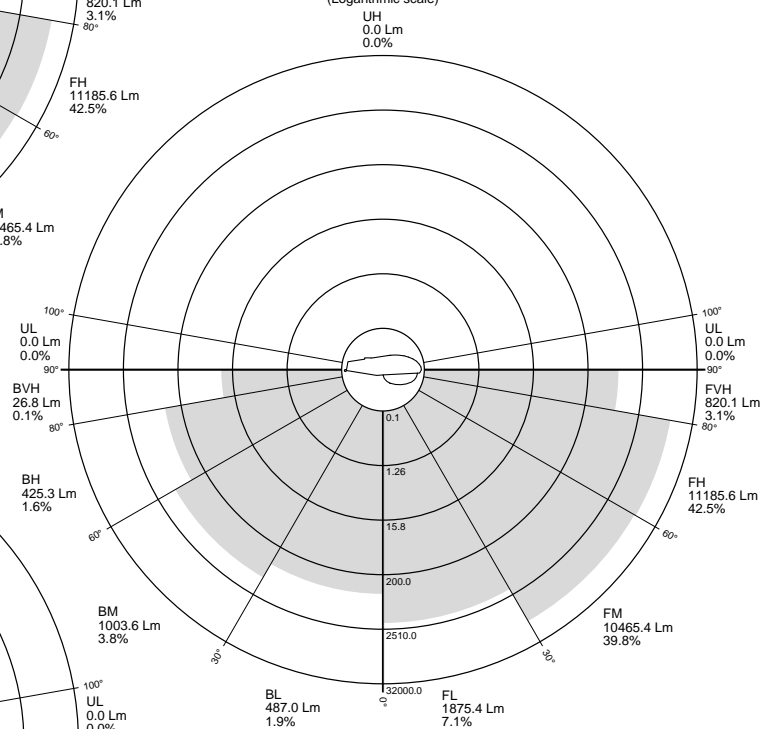


(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



REPORT NUMBER: RAB01814
 ISSUE DATE: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 9
 DATE SAMPLE TESTED: 03/31/16

CANDELA TABULATION

	STREET SIDE	LATERAL ANGLE										
		0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	70.0	75.0	85.0
	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	24.	24.	32.	39.	59.	94.	108.	254.	356.	312.	168.
	85.0	34.	37.	59.	116.	302.	762.	1562.	1869.	1976.	1951.	497.
	82.5	59.	66.	250.	722.	1511.	2625.	4525.	5537.	6018.	6190.	1835.
V	80.0	495.	476.	1128.	2347.	3739.	5419.	7512.	10050.	10375.	11150.	4782.
E	77.5	1688.	1361.	2348.	4065.	5592.	7678.	10576.	13066.	14151.	14544.	9044.
R	75.0	2533.	2070.	3235.	5041.	7362.	9771.	13472.	15176.	16449.	17074.	12850.
T	72.5	3159.	2769.	4174.	6231.	9015.	11968.	15346.	18467.	18654.	19064.	14731.
I	70.0	3766.	3512.	5132.	7393.	10581.	13751.	16555.	20660.	20920.	20121.	14619.
C	69.0<<	3969.	3772.	5560.	8048.	11256.	14230.	16859.	20992.	21410.	20328.	14544.
A	67.5	4432.	4127.	6309.	8943.	11761.	14635.	17086.	20298.	20438.	20072.	14944.
L	65.0	5822.	4954.	7454.	10129.	12473.	14740.	17064.	18683.	18624.	18048.	14929.
	62.5	7332.	5867.	8311.	10637.	12560.	14611.	16346.	17307.	17320.	16705.	13847.
A	60.0	8230.	6817.	8625.	10476.	12394.	14335.	15560.	16083.	15785.	15237.	11553.
N	57.5	8202.	7366.	8198.	10068.	12113.	13669.	14655.	14445.	14454.	13783.	10181.
G	55.0	7978.	7295.	7978.	9723.	11748.	12885.	13568.	13177.	13196.	13046.	9721.
L	52.5	7652.	7040.	8041.	9465.	11190.	12163.	12577.	12625.	12410.	12113.	9235.
E	50.0	7374.	6737.	7906.	9440.	10486.	11524.	12075.	12239.	11944.	11203.	8525.
	47.5	7032.	6464.	7511.	9205.	10178.	11109.	11557.	11436.	11155.	10598.	7915.
	45.0	6669.	6139.	7019.	8805.	9896.	10644.	10821.	10407.	10063.	9369.	7212.
	42.5	6306.	5813.	6665.	8249.	9412.	9965.	9914.	9262.	8856.	8260.	6394.
	40.0	5870.	5556.	6287.	7850.	8810.	9090.	8914.	8318.	7995.	7425.	5801.
	37.5	5445.	5298.	5994.	7652.	8182.	8370.	8061.	7573.	7286.	6777.	5435.
	35.0	5330.	5140.	5761.	7191.	7559.	7671.	7325.	6959.	6724.	6255.	4972.
	30.0	5473.	4997.	5321.	5704.	6390.	6336.	6330.	6161.	5853.	5416.	4277.
	25.0	5142.	4888.	4966.	5048.	5272.	5620.	5483.	5274.	5023.	4697.	3787.
	20.0	4795.	4715.	4673.	4770.	4758.	4888.	5128.	4614.	4308.	4002.	3360.
	15.0	4468.	4473.	4329.	4306.	4314.	4161.	3949.	3723.	3561.	3366.	2953.
	10.0	3901.	3887.	3733.	3594.	3415.	3278.	3104.	2924.	2778.	2631.	2352.
	5.0	3026.	3036.	2943.	2899.	2781.	2652.	2511.	2345.	2280.	2195.	2047.
	0.0	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.

||
 PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB01814
 ISSUE DATE: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 8 OF 9
 DATE SAMPLE TESTED: 03/31/16

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	106.	35.	35.	35.	33.	31.	30.	30.	29.	29.	29.
85.0	246.	52.	39.	34.	29.	27.	27.	28.	28.	27.	27.
82.5	1072.	103.	53.	37.	26.	24.	24.	26.	26.	26.	26.
V 80.0	2559.	219.	90.	43.	24.	21.	22.	25.	25.	25.	25.
E 77.5	4063.	446.	147.	60.	24.	20.	20.	23.	24.	25.	25.
R 75.0	5846.	780.	226.	102.	34.	20.	18.	22.	24.	25.	25.
T 72.5	6974.	1065.	327.	136.	54.	21.	17.	21.	23.	24.	25.
I 70.0	7380.	1342.	405.	154.	82.	26.	17.	21.	23.	24.	24.
C 69.0<<	7690.	1553.	418.	158.	96.	28.	18.	21.	23.	24.	25.
A 67.5	8332.	2025.	449.	199.	106.	32.	20.	21.	24.	25.	25.
L 65.0	8808.	3031.	489.	291.	115.	41.	23.	24.	25.	26.	27.
62.5	8144.	3170.	600.	543.	132.	56.	28.	28.	29.	29.	29.
A 60.0	7123.	3038.	838.	721.	181.	63.	32.	33.	31.	32.	32.
N 57.5	6960.	3258.	1013.	761.	229.	62.	44.	41.	35.	36.	36.
G 55.0	6632.	3583.	1189.	674.	264.	63.	49.	58.	39.	42.	40.
L 52.5	6729.	4217.	1227.	672.	383.	88.	50.	59.	42.	50.	42.
E 50.0	6486.	4785.	1475.	699.	436.	142.	57.	49.	43.	45.	42.
47.5	6381.	4969.	1892.	716.	411.	178.	79.	52.	45.	43.	42.
45.0	5996.	4714.	2002.	856.	421.	174.	106.	75.	51.	44.	44.
42.5	5545.	4117.	1870.	877.	479.	204.	120.	105.	69.	57.	51.
40.0	5009.	3841.	1797.	980.	619.	296.	135.	119.	93.	78.	68.
37.5	4531.	3496.	1853.	910.	765.	397.	148.	122.	101.	91.	75.
35.0	4131.	3279.	1915.	892.	720.	562.	253.	133.	109.	99.	78.
30.0	3627.	2975.	1910.	1118.	778.	879.	900.	434.	149.	94.	85.
25.0	3249.	2729.	1889.	1280.	1014.	928.	686.	521.	510.	406.	385.
20.0	2977.	2585.	1929.	1482.	1056.	667.	444.	473.	506.	328.	257.
15.0	2678.	2438.	1986.	1563.	1130.	740.	588.	537.	507.	483.	468.
10.0	2167.	2011.	1692.	1377.	1125.	1020.	924.	991.	1040.	1063.	1047.
5.0	1970.	1897.	1789.	1683.	1616.	1594.	1555.	1579.	1546.	1580.	1568.
0.0	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.	2279.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB01814
 ISSUE DATE: 03/31/16
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9
 DATE SAMPLE TESTED: 03/31/16

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	52
5- 10	154
10- 15	283
15- 20	442
20- 25	615
25- 30	816
30- 35	1038
35- 40	1326
40- 45	1696
45- 50	2112
50- 55	2454
55- 60	2843
60- 65	3252
65- 70	3380
70- 75	2958
75- 80	2021
80- 85	769
85- 90	78
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	206
0- 20	931
0- 30	2362
0- 40	4726
0- 50	8535
0- 60	13831
0- 70	20463
0- 80	25442
0- 90	26289
0-100	26289
0-110	26289
0-120	26289
0-130	26289
0-140	26289
0-150	26289
0-160	26289
0-170	26289
0-180	26289

REPORT NUMBER: RAB01654
DATE: 3/31/2016
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: ALED3T260Y/D10 - ALED3T260SFY/D10 - WPLED3T260Y/D10 - WPLED3T260YFX/D10 (TYPE III)
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
2/26/17
3/21/17
3/21/17
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: RAB01654
 DATE: 3/31/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED3T260Y/D10 - ALED3T260SFY/D10 - WPLED3T260Y/D10 - WPLED3T260YFX/D10 (TYPE III)

Page 2 of 4

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	26289 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4247
Chromaticity Ordinate y	0.4045
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2425
Chromaticity Ordinate v'	0.5197
Correlated Color Temp CCT (K)	3219
ANSI C78.377-2008 Duv	0.002
Total Radiant Flux (milliWatts)	73245 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	2.15
Input Power (Watts)	257.6
Input Power Factor (%)	99.8
Input Current THD (%)	3.9
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	102.1
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.942
Input Power (Watts)	252.2
Input Power Factor (%)	96.6
Input Current THD (%)	6.1
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	90
R4 Moderate yellowish green	67
R5 Light bluish green	65
R6 Light blue	70
R7 Light violet	79
R8 Light reddish purple	44
R9 Strong red	-39
R10 Strong yellow	50
R11 Strong green	60
R12 Strong blue	41
R13 Light yellowish pink (skin)	68
R14 Moderate olive green (leaf)	94

*NOTE:

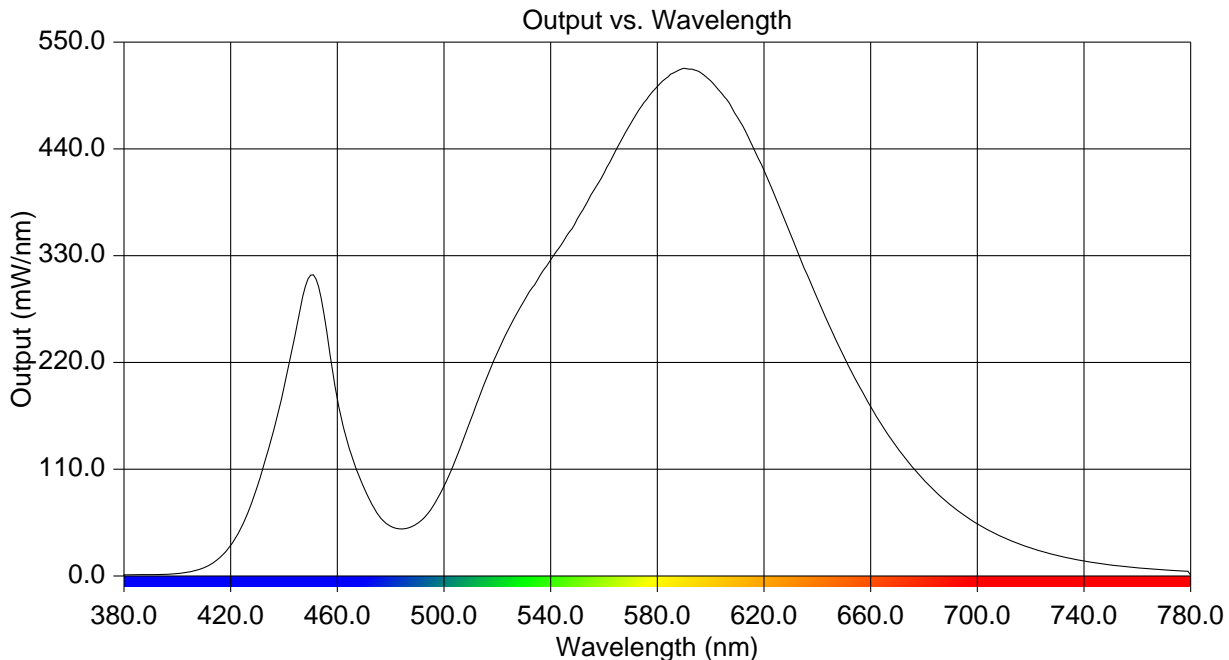
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB01654
 DATE: 3/31/2016
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED3T260Y/D10 - ALED3T260SFY/D10 - WPLED3T260Y/D10 - WPLED3T260YFX/D10
 (TYPE III)

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	1.119	515	197.110	650	225.832
385	1.238	520	230.854	655	199.272
390	1.372	525	258.964	660	174.423
395	1.697	530	283.525	665	152.005
400	2.473	535	304.960	670	132.345
405	4.364	540	325.937	675	114.503
410	8.478	545	346.060	680	99.004
415	16.820	550	368.379	685	84.875
420	31.357	555	392.512	690	73.065
425	56.022	560	415.817	695	62.832
430	92.376	565	441.881	700	53.728
435	139.228	570	466.513	705	46.108
440	193.788	575	488.274	710	39.393
445	260.975	580	504.666	715	33.754
450	310.293	585	517.537	720	28.904
455	269.997	590	523.588	725	24.718
460	182.600	595	520.938	730	21.102
465	126.540	600	510.757	735	18.081
470	91.178	605	494.588	740	15.407
475	64.826	610	473.255	745	13.219
480	51.020	615	447.385	750	11.417
485	48.804	620	418.509	755	9.798
490	54.101	625	386.430	760	8.428
495	68.208	630	351.881	765	7.276
500	92.627	635	317.729	770	6.277
505	124.519	640	286.137	775	5.460
510	160.636	645	255.445	780	0.824



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CIE Chromaticity Diagram

