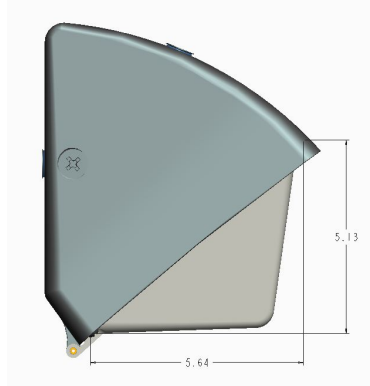


ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

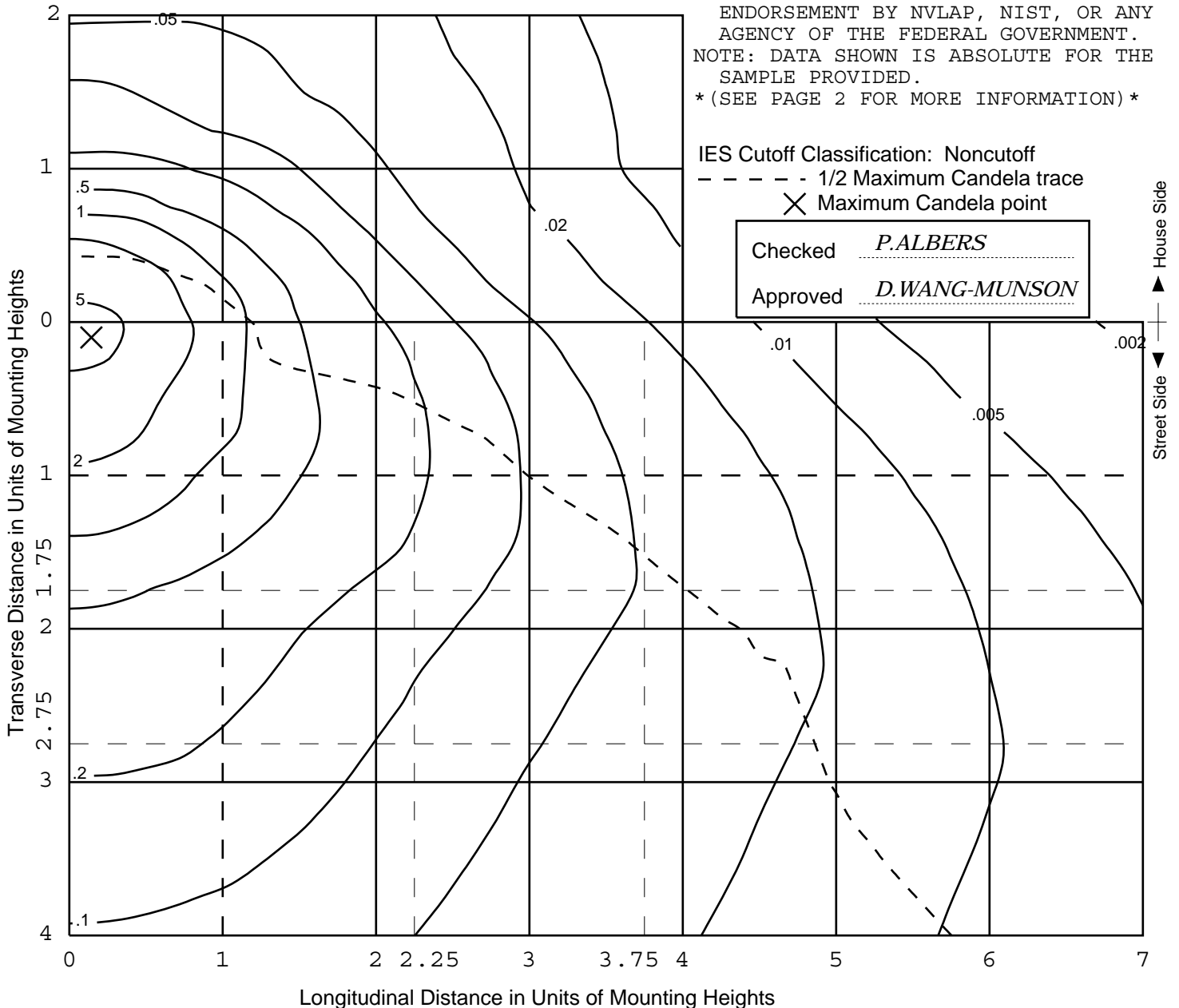
Values based on 12 foot mounting height.



REPORT NUMBER: RAB03096
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 DATE SAMPLE TESTED: 03/23/17
 CATALOG NUMBER: WP1LED30, WP1LED30/D10
 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)
 LUMINAIRE: COMPACT WALLPACK WITH VANDAL RESISTANT PRISMATIC POLYCARBONATE REFRACTOR.
 LAMP: SEVENTY TWO 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



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CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

ADDITIONAL INFORMATION

TOTAL INPUT WATTS = 31.111 W AT 277.0 VAC.

LED DRIVER: RDD-U26-A0720

TEST PROCEDURE: IESNA LM-79-08

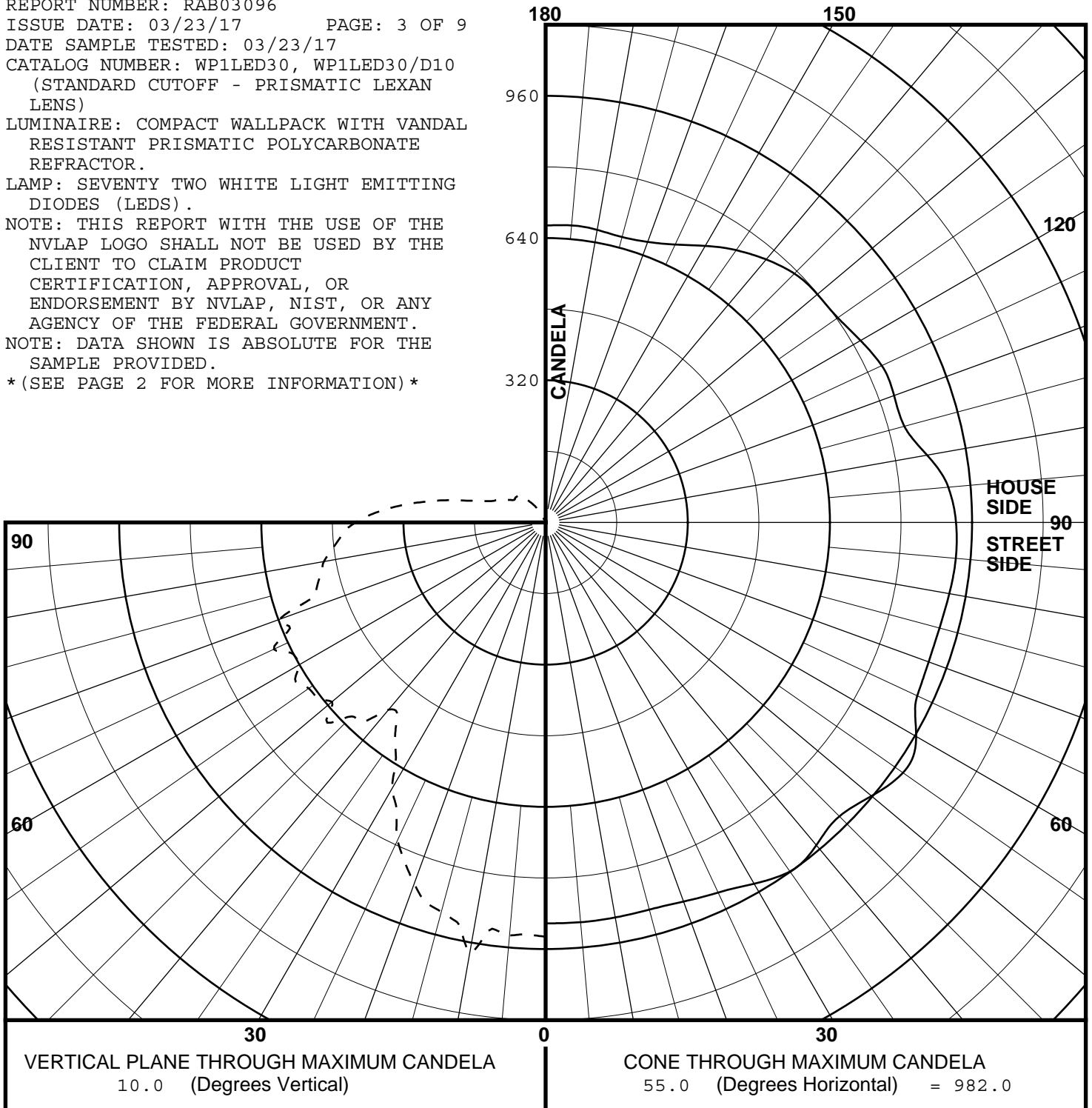
LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

AMBIENT: 24.7

ACCREDITED LABORATORY CODE 201058-0

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: RAB03096
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 DATE SAMPLE TESTED: 03/23/17
 CATALOG NUMBER: WP1LED30, WP1LED30/D10
 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)
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 NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.
 (SEE PAGE 2 FOR MORE INFORMATION)



REPORT NUMBER: RAB03096

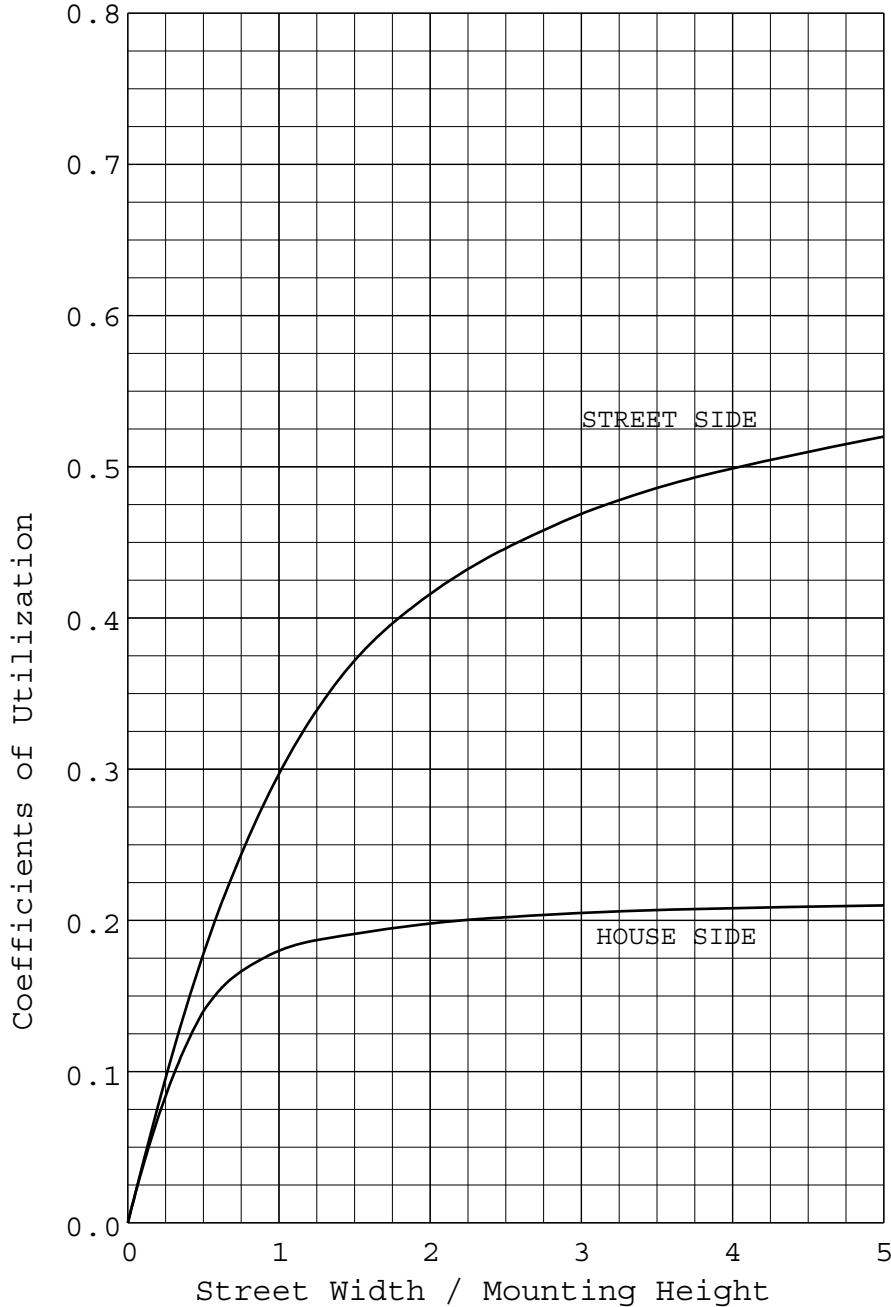
PAGE: 4 OF 9

ISSUE DATE: 03/23/17

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	1998.	60.0
DOWNWARD HOUSE SIDE	717.	21.5
DOWNWARD TOTAL	2715.	81.5
UPWARD STREET SIDE	566.	17.0
UPWARD HOUSE SIDE	51.	1.5
UPWARD TOTAL	617.	18.5
TOTAL FLUX	3332.	100.0
TOTAL INPUT WATTS = 31.1		
EFFICACY = 107.1 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.

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DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN

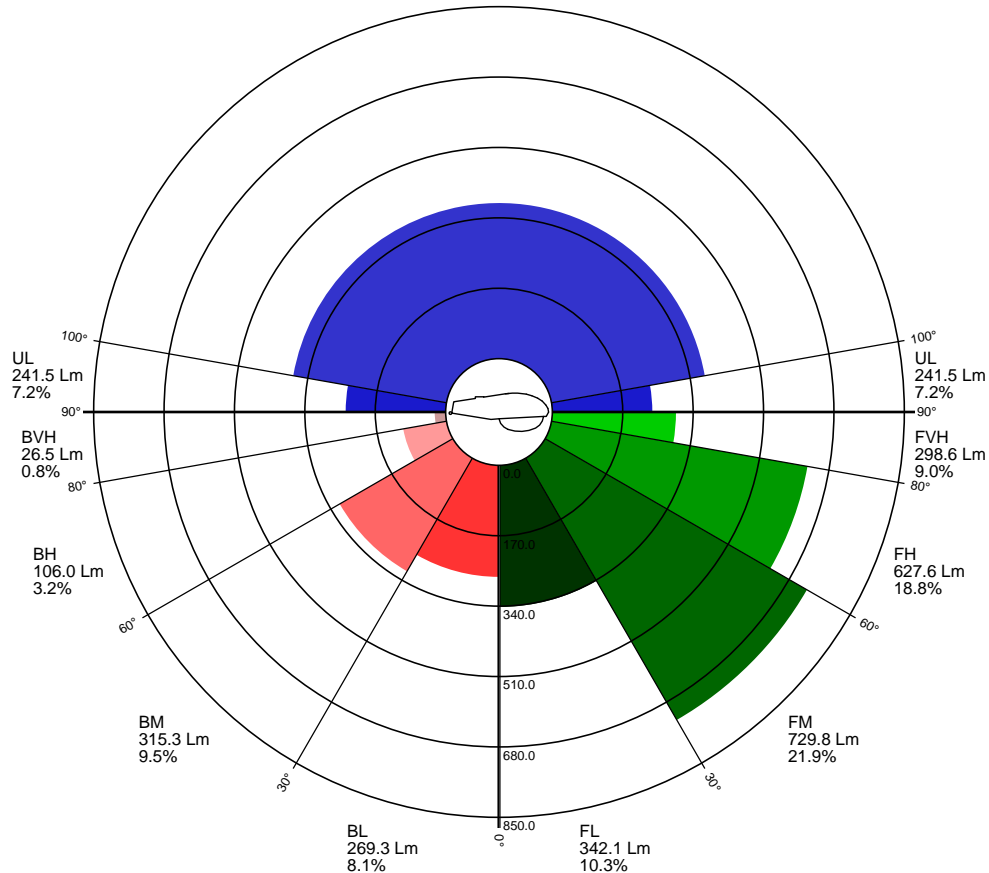
LENS BUG Rating:

Zonal Summary		Lumens	% of Fixture	Zone Ratings		
				B	U	G
Forward		1998	60.0			
FL	(0° - 30°)	342.1	10.3			
FM	(30° - 60°)	729.8	21.9			
FH	(60° - 80°)	627.6	18.8			G0
FVH	(80° - 90°)	298.6	9.0			G3
Backward		717	21.5			
BL	(0° - 30°)	269.3	8.1	B1		
BM	(30° - 60°)	315.3	9.5	B1		
BH	(60° - 80°)	106.0	3.2	B0		G0
BVH	(80° - 90°)	26.5	0.8			G1
Upward		617	18.5			
UL	(90° - 100°)	241.5	7.2		U3	
UH	(100° - 180°)	375.7	11.3		U3	
Trapped Light		0	0.0			
Total Flux		3332	100.0			

Zonal Lumen Summary

(Linear scale)

UH
375.7 Lm
11.3%



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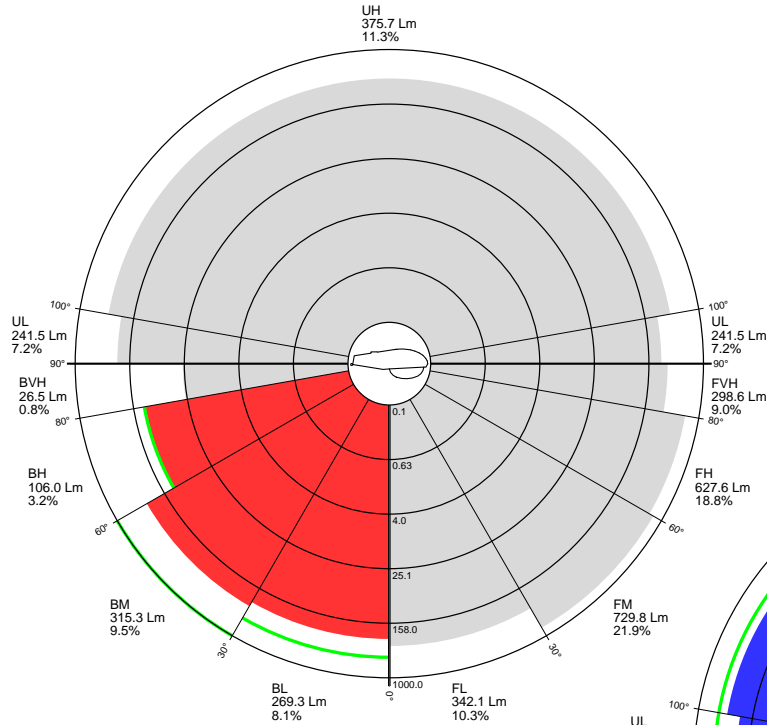
PAGE: 6 OF 9

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CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

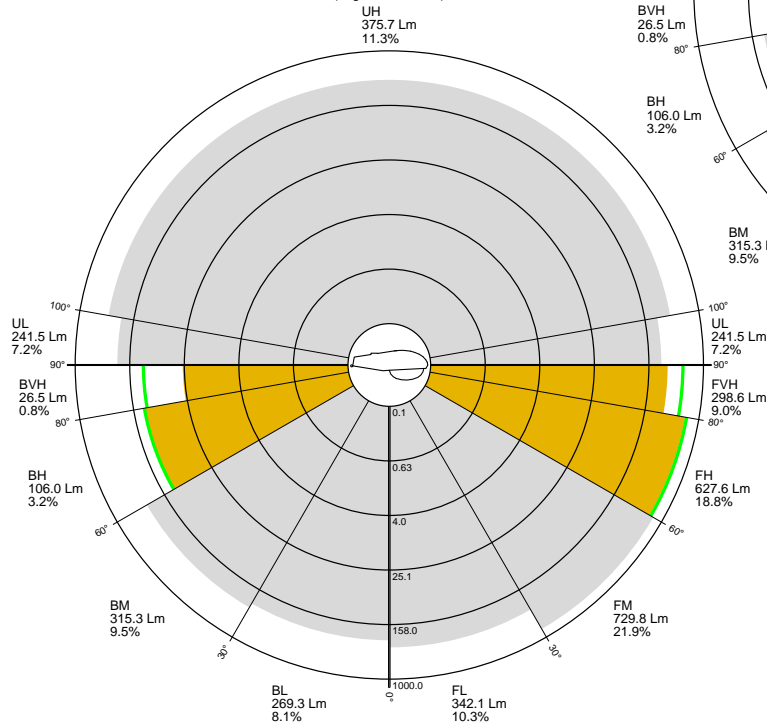
Backlight Rating Details

(Logarithmic scale)



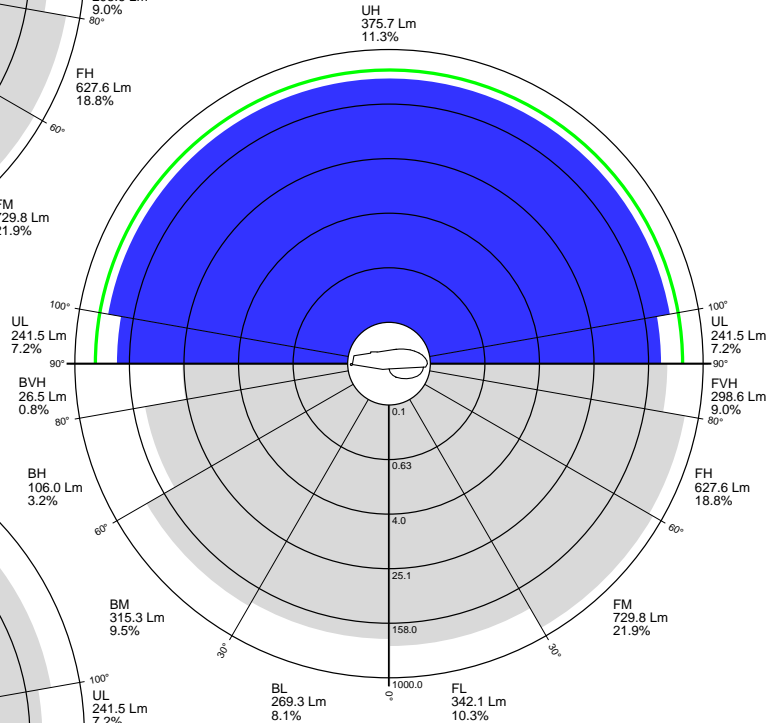
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



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DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

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
V E R T I C A L A N G L E											
	180.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
	175.0	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.
	165.0	0.	0.	0.	1.	1.	1.	2.	2.	2.	2.
	155.0	44.	43.	39.	32.	26.	15.	10.	9.	7.	5.
	145.0	69.	67.	64.	62.	63.	57.	51.	37.	29.	18.
	135.0	64.	64.	65.	69.	78.	81.	86.	74.	59.	38.
	125.0	139.	142.	140.	123.	104.	92.	88.	89.	85.	58.
	115.0	370.	372.	339.	275.	208.	150.	120.	95.	77.	61.
	105.0	476.	494.	541.	461.	417.	303.	190.	107.	74.	55.
	95.0	655.	670.	657.	618.	540.	475.	356.	208.	96.	53.
	90.0	837.	842.	800.	706.	592.	526.	428.	299.	149.	64.
	87.5	842.	855.	845.	766.	628.	546.	453.	345.	193.	76.
	85.0	890.	898.	898.	771.	643.	560.	469.	396.	236.	93.
	82.5	912.	916.	900.	797.	676.	567.	487.	437.	278.	118.
	80.0	973.	969.	915.	791.	670.	576.	507.	480.	326.	154.
	77.5	973.	973.	896.	808.	672.	568.	517.	506.	369.	194.
	75.0	942.	935.	890.	773.	645.	564.	531.	553.	409.	247.
	72.5	869.	873.	860.	756.	636.	554.	544.	559.	452.	299.
	70.0	877.	884.	840.	709.	598.	553.	638.	579.	494.	346.
	67.5	806.	801.	753.	695.	574.	579.	623.	615.	508.	387.
	65.0	780.	775.	714.	621.	567.	669.	675.	596.	527.	399.
	62.5	661.	659.	643.	614.	659.	665.	641.	621.	526.	420.
	60.0	655.	653.	653.	673.	652.	646.	641.	622.	514.	435.
	57.5	690.	686.	698.	662.	718.	693.	667.	619.	508.	443.
	55.0	665.	656.	688.	757.	637.	604.	651.	629.	502.	453.
	52.5	771.	753.	731.	653.	649.	656.	648.	629.	503.	482.
	50.0	728.	710.	695.	698.	628.	598.	628.	555.	508.	504.
	47.5	760.	727.	693.	660.	662.	695.	667.	535.	528.	525.
	45.0	712.	697.	689.	701.	660.	630.	617.	525.	547.	549.
	42.5	733.	692.	692.	680.	670.	713.	608.	536.	572.	570.
	40.0	717.	693.	723.	713.	657.	620.	550.	570.	604.	595.
37.5	740.	703.	704.	701.	680.	647.	549.	588.	623.	630.	
35.0	707.	704.	751.	719.	629.	589.	591.	642.	664.	653.	
30.0	657.	655.	702.	655.	629.	625.	691.	727.	725.	715.	
25.0	672.	664.	659.	667.	715.	755.	789.	801.	802.	799.	
20.0	764.	761.	776.	794.	845.	856.	865.	847.	866.	843.	
15.0	881.	883.	879.	890.	903.	913.	907.	930.	927.	898.	
10.0<<	902.	903.	902.	919.	959.	935.	982.	923.	918.	927.	
5.0	962.	957.	952.	928.	907.	909.	933.	927.	930.	944.	
0.0	932.	932.	932.	932.	932.	932.	932.	932.	932.	932.	

||
PLANE OF MAXIMUM CANDELA

—
CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03096

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ISSUE DATE: 03/23/17

DATE SAMPLE TESTED: 03/23/17

CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

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	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
	175.0	2.	2.	2.	2.	2.	1.	1.	1.	1.	0. 0.
	165.0	2.	2.	2.	2.	2.	1.	1.	1.	1.	1. 1.
	155.0	5.	4.	3.	3.	2.	2.	1.	1.	1.	1. 1.
	145.0	13.	10.	8.	7.	6.	4.	2.	1.	1.	1. 1.
	135.0	28.	23.	16.	14.	11.	7.	4.	1.	1.	1. 1.
	125.0	43.	35.	26.	22.	17.	11.	6.	2.	1.	2. 1.
	115.0	52.	44.	35.	30.	23.	16.	10.	4.	2.	2. 2.
	105.0	51.	49.	45.	37.	30.	22.	14.	7.	3.	3. 3.
	95.0	48.	50.	51.	50.	47.	39.	24.	11.	4.	4. 4.
	90.0	50.	49.	54.	60.	63.	54.	34.	14.	5.	4. 4.
	87.5	57.	52.	57.	66.	70.	61.	39.	17.	6.	5. 4.
	85.0	66.	57.	61.	71.	80.	71.	46.	20.	7.	5. 4.
V	82.5	81.	65.	66.	75.	89.	79.	58.	31.	16.	12. 12.
E	80.0	102.	77.	71.	79.	96.	86.	70.	43.	30.	26. 25.
R	77.5	135.	94.	77.	85.	95.	91.	76.	60.	43.	41. 41.
T	75.0	174.	116.	82.	91.	94.	101.	80.	74.	57.	50. 49.
I	72.5	223.	146.	92.	97.	95.	107.	86.	73.	78.	62. 58.
C	70.0	259.	181.	106.	101.	96.	102.	97.	76.	77.	89. 91.
A	67.5	298.	218.	128.	109.	103.	97.	107.	82.	73.	74. 75.
L	65.0	329.	259.	159.	122.	108.	94.	100.	97.	73.	61. 61.
	62.5	359.	291.	194.	133.	116.	96.	90.	103.	90.	73. 71.
A	60.0	386.	336.	235.	157.	128.	100.	87.	95.	105.	99. 97.
N	57.5	415.	368.	278.	188.	139.	105.	87.	83.	94.	103. 102.
G	55.0	434.	410.	322.	220.	152.	119.	91.	77.	76.	80. 81.
L	52.5	461.	440.	365.	259.	177.	135.	107.	83.	74.	69. 68.
E	50.0	494.	469.	406.	299.	205.	157.	126.	98.	81.	72. 72.
	47.5	519.	498.	436.	341.	243.	181.	151.	117.	99.	86. 85.
	45.0	537.	519.	465.	390.	290.	216.	180.	141.	121.	106. 105.
	42.5	562.	537.	501.	425.	344.	262.	211.	170.	148.	129. 128.
	40.0	578.	565.	523.	460.	393.	327.	251.	199.	178.	158. 156.
	37.5	599.	592.	549.	486.	432.	383.	312.	239.	208.	191. 189.
	35.0	636.	616.	566.	511.	464.	425.	374.	322.	250.	228. 228.
	30.0	709.	677.	618.	575.	526.	510.	473.	430.	424.	387. 385.
	25.0	773.	771.	690.	635.	582.	541.	517.	495.	456.	445. 446.
	20.0	835.	830.	750.	701.	642.	598.	547.	572.	514.	496. 495.
	15.0	914.	898.	808.	779.	722.	651.	632.	601.	577.	560. 558.
	10.0 <<	924.	910.	836.	835.	803.	792.	748.	690.	665.	671. 668.
	5.0	937.	924.	886.	841.	831.	830.	836.	836.	831.	826. 828.
	0.0	932.	932.	932.	932.	932.	932.	932.	932.	932.	932. 932.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03096
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PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9
DATE SAMPLE TESTED: 03/23/17

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	22
5- 10	63
10- 15	98
15- 20	126
20- 25	145
25- 30	158
30- 35	167
35- 40	171
40- 45	174
45- 50	175
50- 55	178
55- 60	181
60- 65	181
65- 70	185
70- 75	186
75- 80	183
80- 85	171
85- 90	154
90- 95	132
95-100	110
100-105	92
105-110	76
110-115	59
115-120	43
120-125	30
125-130	22
130-135	17
135-140	13
140-145	10
145-150	7
150-155	4
155-160	2
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	84
0- 20	308
0- 30	611
0- 40	949
0- 50	1298
0- 60	1657
0- 70	2022
0- 80	2390
0- 90	2715
0-100	2957
0-110	3124
0-120	3226
0-130	3279
0-140	3309
0-150	3326
0-160	3332
0-170	3332
0-180	3332

REPORT NUMBER: RAB03096
 DATE: 3/23/2017
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

Page 1 of 4

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: COMPACT WALLPACK WITH VANDAL RESISTANT PRISMATIC POLYCARBONATE REFRACTOR.

LAMP: SEVENTY TWO WHITE LIGHT EMITTING DIODES (LEDs).

DRIVER: RDD-U26-A0720

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT VOLTAGES (277.0 AND 120.0 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 (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 (120.0 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: RAB03096
 DATE: 3/23/2017
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	3332 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3368
Chromaticity Ordinate y	0.3445
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2086
Chromaticity Ordinate v'	0.4799
Correlated Color Temp CCT (K)	5314
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	10830 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.122
Input Power (Watts)	31.1
Input Power Factor (%)	91.8
Input Current THD (%)	15.6
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	107.1
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.260
Input Power (Watts)	30.9
Input Power Factor (%)	99.1
Input Current THD (%)	8.0
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	86
R1 Light greyish red	85
R2 Dark greyish yellow	91
R3 Strong yellowish green	93
R4 Moderate yellowish green	86
R5 Light bluish green	86
R6 Light blue	86
R7 Light violet	89
R8 Light reddish purple	74
R9 Strong red	27
R10 Strong yellow	78
R11 Strong green	85
R12 Strong blue	66
R13 Light yellowish pink (skin)	87
R14 Moderate olive green (leaf)	97

*NOTE:

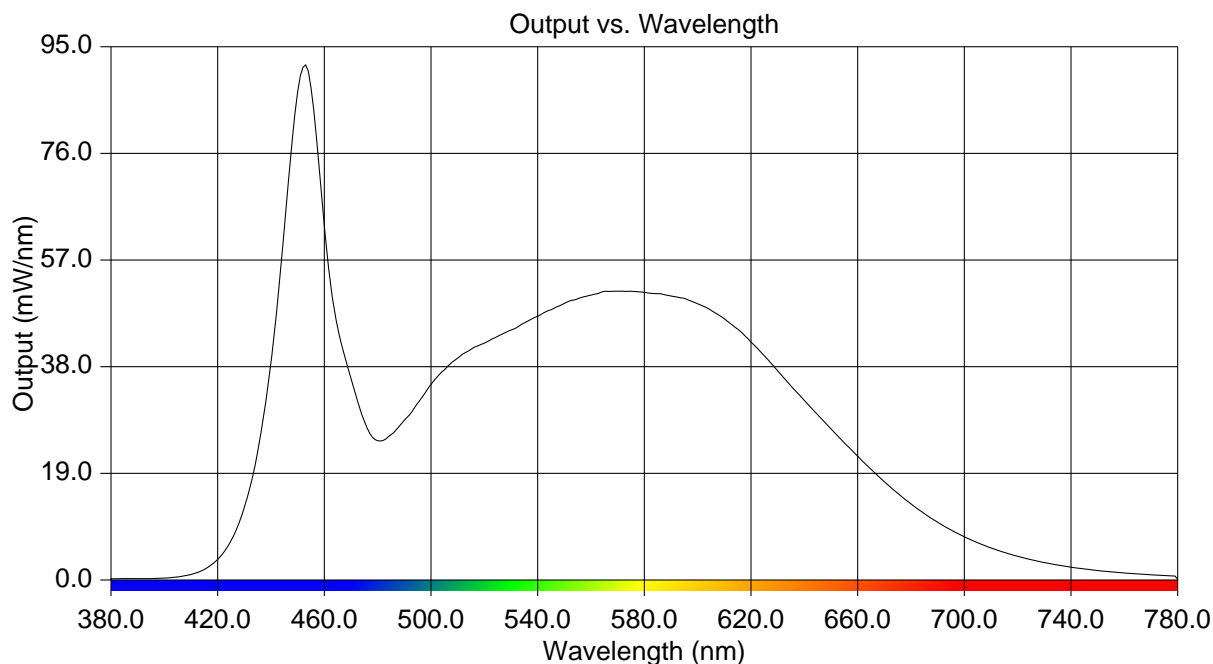
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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.

REPORT NUMBER: RAB03096
 DATE: 3/23/2017
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: WP1LED30, WP1LED30/D10 (STANDARD CUTOFF - PRISMATIC LEXAN LENS)

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.203	515	41.091	650	26.903
385	0.220	520	42.214	655	24.423
390	0.229	525	43.438	660	22.051
395	0.268	530	44.544	665	19.697
400	0.347	535	45.801	670	17.501
405	0.533	540	46.955	675	15.454
410	0.971	545	48.139	680	13.541
415	1.881	550	49.215	685	11.816
420	3.659	555	50.094	690	10.277
425	6.991	560	50.731	695	8.907
430	12.945	565	51.423	700	7.687
435	22.709	570	51.455	705	6.612
440	38.781	575	51.432	710	5.693
445	62.402	580	51.224	715	4.895
450	86.968	585	50.999	720	4.223
455	87.690	590	50.586	725	3.637
460	63.078	595	50.181	730	3.119
465	44.913	600	49.205	735	2.655
470	35.909	605	48.080	740	2.273
475	28.289	610	46.522	745	1.957
480	24.833	615	44.691	750	1.685
485	25.877	620	42.389	755	1.445
490	28.449	625	40.004	760	1.244
495	31.503	630	37.239	765	1.066
500	34.842	635	34.577	770	0.930
505	37.425	640	32.012	775	0.796
510	39.510	645	29.414	780	0.120



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CIE Chromaticity Diagram

