

REPORT NUMBER: RAB04500

PAGE: 1 OF 10

ISSUE DATE: 09/21/18

DATE SAMPLE TESTED: 07/30/18

PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

CATALOG NUMBER: BRISKS17L-740

LUMINAIRE: CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR, 1 WHITE CIRCUIT BOARD WITH 24 LEDS, MOLDED FROSTED PLASTIC LENS.

LAMPS: TWENTY-FOUR WHITE LIGHT EMITTING DIODES (LEDS), TILTED 30-DEGREE FROM VERTICAL BASE-UP POSITION.

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.

ABSOLUTE: NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

WATT: TOTAL INPUT WATTS = 13.665 W AT 277.0 VAC.

LED DRIVER: LED DRIVER: RD-014-EGH-A0450

PROCEDURE: TEST PROCEDURE: IESNA LM-79-08

NOTE: LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE
AMBIENT: 24.8

NVLAP LAB CODE: ACCREDITED LABORATORY CODE 201058-0



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Checked X.CAO

Approved D.WANG-MUNSON

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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

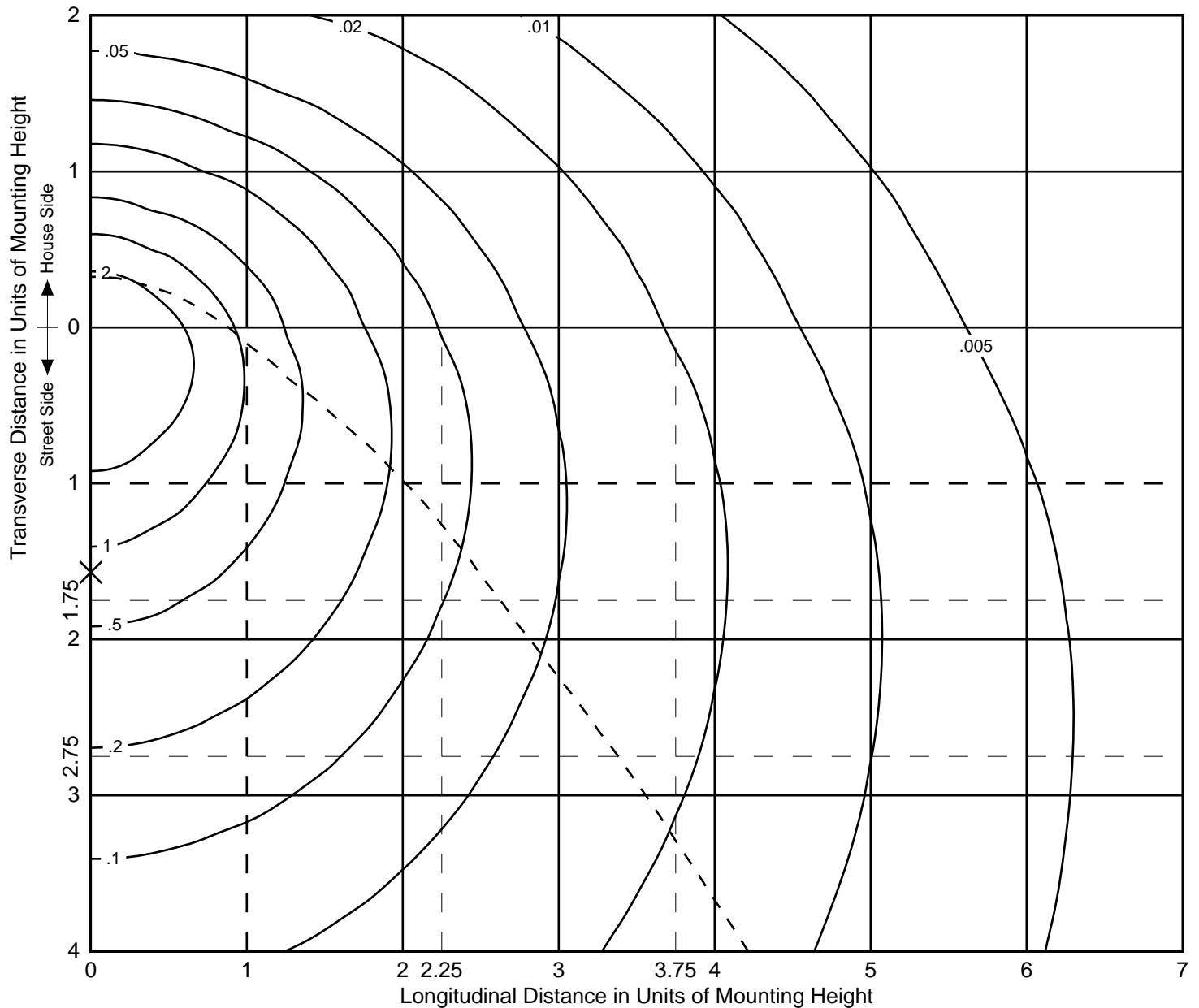
Values based on 10-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Noncutoff

— — — — — 1/2 Maximum Candela trace

× Maximum Candela point



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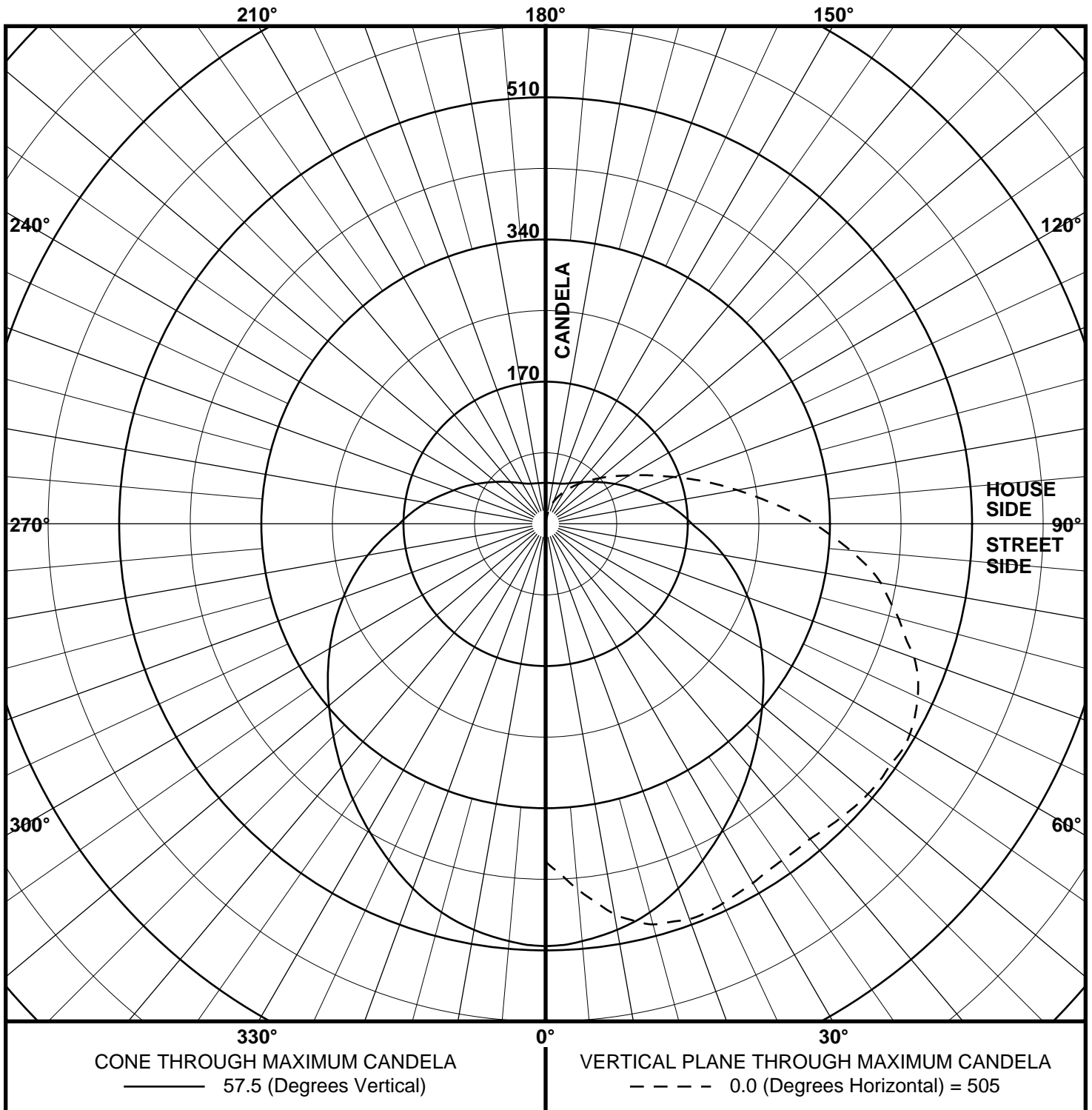
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



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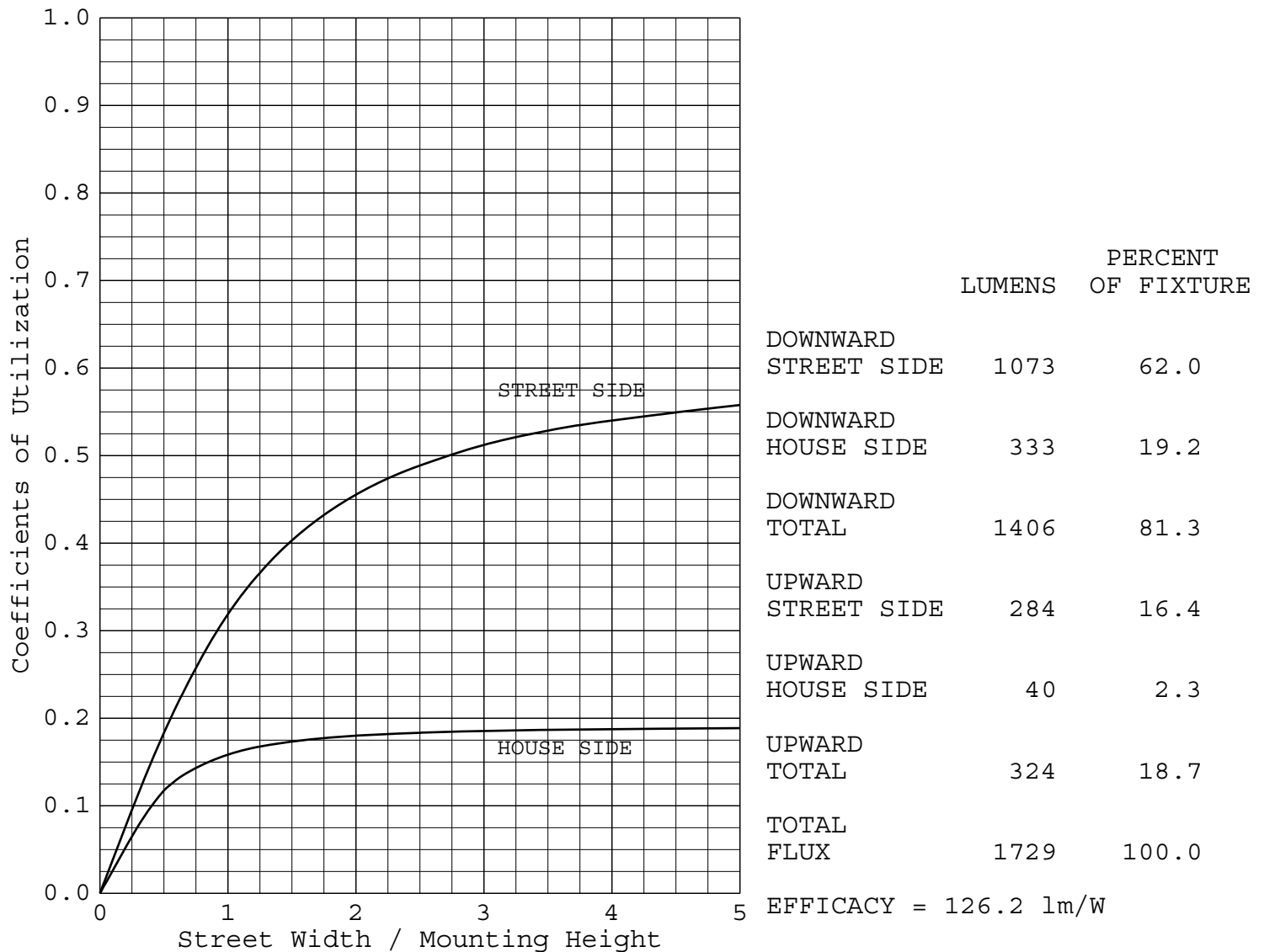
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



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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BUG Rating			B1 U3 G2		
Zonal Summary			Zone Ratings		
			B	U	G
Forward					
FL	(0° – 30°)	1073			
FM	(30° – 60°)	187.4			
FH	(60° – 80°)	441.2			
FVH	(80° – 90°)	318.4			G0
		125.7			G2
Backward					
BL	(0° – 30°)	333			
BM	(30° – 60°)	116.7	B1		
BH	(60° – 80°)	147.8	B0		
BVH	(80° – 90°)	54.7	B0		G0
		13.6			G1
Upward					
UL	(90° – 100°)	324			
UH	(100° – 180°)	103.9		U3	
		219.9		U3	
Trapped Light					
Total Flux					
		0			
		1729			
		100.0			

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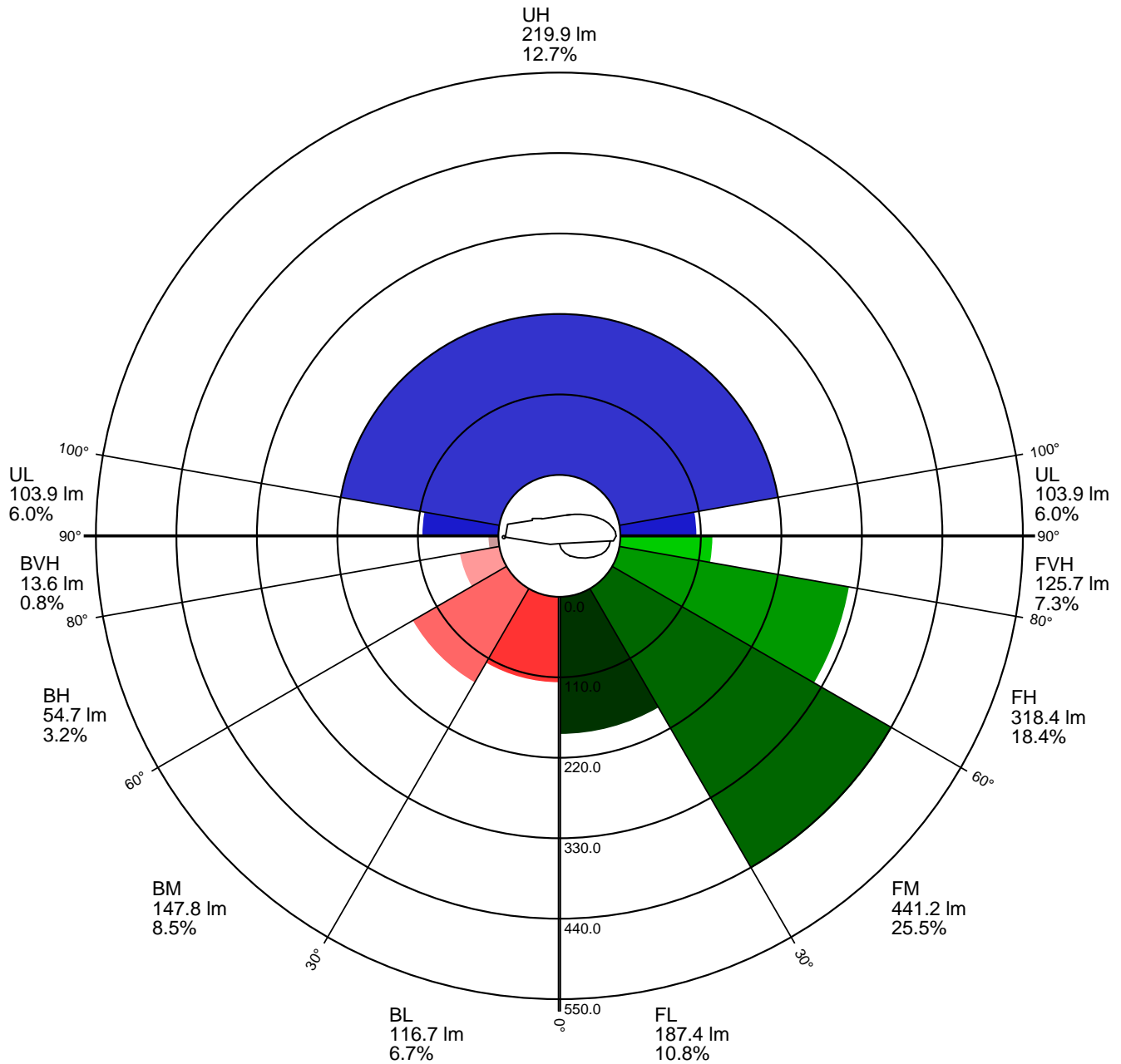
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DATE SAMPLE TESTED: 07/30/18

Zonal Lumen Summary

(Linear scale)

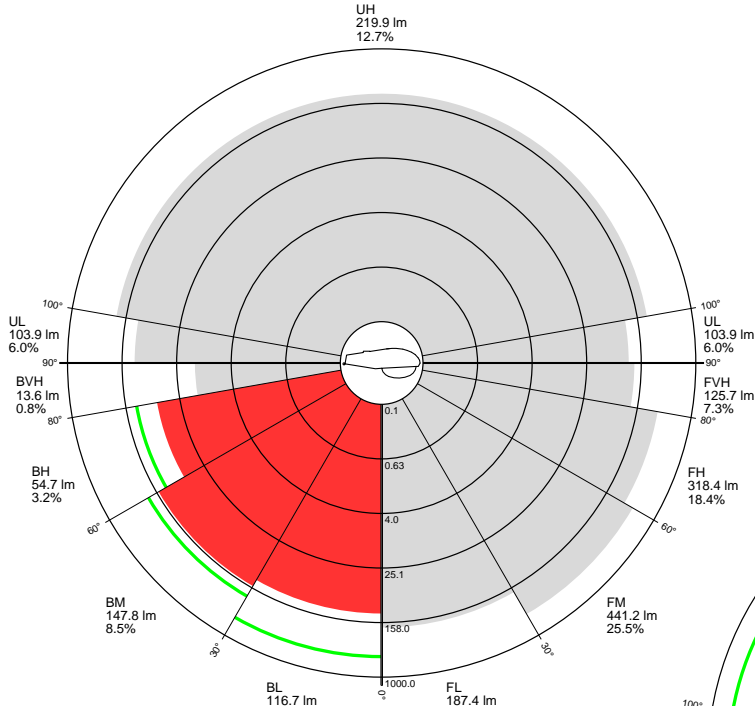


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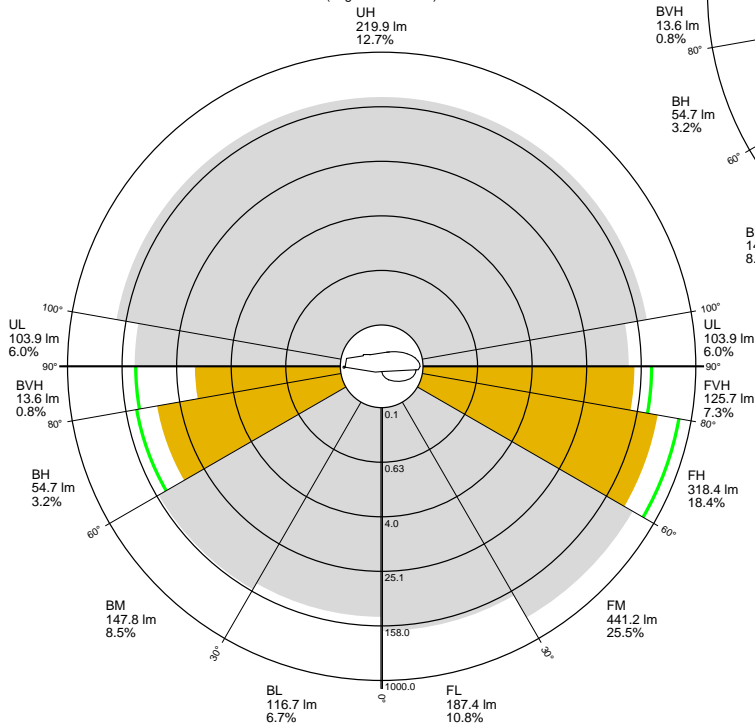
Backlight Rating Details

(Logarithmic scale)



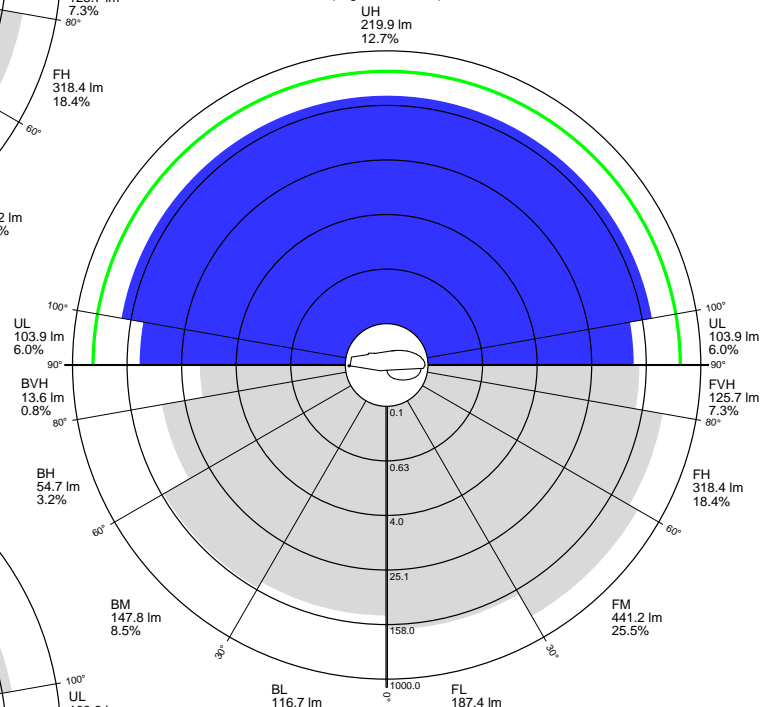
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



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CANDELA TABULATION

STREET SIDE		LATERAL ANGLE										
		0.0	2.5	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0
	180.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
	175.0	0.	0.	0.	1.	2.	3.	3.	4.	3.	3.	3.
	165.0	21.	20.	20.	20.	19.	19.	17.	16.	14.	12.	10.
	155.0	36.	36.	36.	35.	33.	32.	30.	28.	24.	21.	16.
	145.0	53.	53.	53.	52.	50.	48.	44.	40.	35.	29.	23.
	135.0	73.	73.	73.	71.	67.	64.	59.	53.	45.	38.	29.
	125.0	99.	99.	98.	95.	89.	83.	75.	66.	56.	46.	35.
	115.0	137.	137.	136.	130.	120.	109.	96.	83.	69.	55.	41.
	105.0	196.	195.	193.	184.	167.	148.	127.	107.	86.	67.	50.
	95.0	274.	274.	272.	258.	231.	202.	169.	140.	113.	87.	63.
	90.0	321.	318.	318.	302.	271.	236.	198.	164.	131.	101.	73.
	87.5	343.	342.	341.	323.	292.	254.	213.	177.	143.	111.	81.
	85.0	366.	365.	363.	345.	312.	272.	229.	191.	155.	122.	89.
	82.5	388.	386.	384.	366.	331.	290.	245.	206.	168.	133.	99.
V	80.0	407.	405.	405.	385.	349.	306.	260.	219.	181.	144.	108.
E	77.5	421.	420.	419.	403.	366.	322.	275.	233.	193.	156.	118.
R	75.0	437.	436.	434.	415.	381.	336.	288.	245.	205.	166.	128.
T	72.5	451.	452.	450.	429.	395.	349.	300.	257.	217.	177.	137.
I	70.0	469.	468.	466.	444.	408.	363.	314.	270.	229.	189.	148.
C	67.5	482.	481.	479.	458.	419.	376.	327.	282.	241.	200.	158.
A	65.0	491.	490.	489.	468.	429.	385.	337.	292.	251.	210.	167.
L	62.5	498.	497.	496.	474.	436.	393.	345.	302.	261.	219.	177.
	60.0	503.	502.	500.	480.	442.	400.	353.	310.	270.	229.	187.
A	57.5<<	505.	504.	501.	481.	444.	402.	359.	318.	278.	237.	195.
N	55.0	503.	503.	501.	482.	447.	406.	365.	325.	286.	246.	205.
G	52.5	504.	504.	502.	483.	449.	409.	371.	333.	295.	255.	215.
L	50.0	503.	502.	500.	483.	451.	413.	378.	341.	304.	266.	226.
E	47.5	501.	500.	499.	482.	453.	418.	385.	350.	315.	277.	238.
	45.0	498.	497.	496.	480.	453.	422.	392.	360.	326.	289.	250.
	42.5	495.	494.	492.	478.	454.	426.	400.	369.	337.	301.	262.
	40.0	492.	491.	491.	478.	457.	432.	406.	380.	349.	314.	276.
	37.5	492.	491.	490.	480.	461.	439.	414.	392.	362.	327.	290.
	35.0	492.	491.	490.	481.	466.	447.	424.	404.	375.	341.	304.
	32.5	493.	493.	492.	485.	471.	455.	434.	411.	387.	354.	319.
	30.0	496.	494.	494.	488.	477.	462.	444.	421.	397.	366.	332.
	27.5	498.	497.	497.	492.	482.	468.	450.	429.	407.	376.	344.
	25.0	501.	501.	500.	496.	487.	475.	458.	437.	411.	386.	355.
	20.0	503.	503.	503.	499.	492.	481.	465.	447.	426.	404.	378.
	15.0	496.	495.	495.	492.	485.	475.	463.	449.	431.	411.	395.
	10.0	474.	472.	473.	470.	466.	460.	452.	441.	429.	416.	406.
	5.0	439.	439.	438.	437.	435.	431.	427.	423.	416.	410.	406.
	0.0	404.	404.	404.	404.	404.	404.	404.	404.	404.	404.	404.

||
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

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CATALOG NUMBER: BRISKS17L-740

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	3.	3.	3.	2.	2.	2.	1.	1.	1.	1.
	165.0	9.	8.	7.	6.	4.	3.	2.	1.	1.	1.
	155.0	15.	14.	11.	10.	7.	5.	3.	1.	1.	1.
	145.0	21.	19.	17.	14.	11.	8.	4.	2.	1.	1.
	135.0	26.	24.	21.	17.	13.	9.	5.	2.	1.	1.
	125.0	31.	29.	25.	20.	16.	11.	6.	2.	1.	1.
	115.0	36.	33.	28.	23.	18.	12.	6.	3.	2.	1.
	105.0	43.	39.	33.	26.	20.	13.	7.	3.	2.	2.
	95.0	53.	47.	38.	29.	21.	14.	7.	3.	2.	2.
	90.0	60.	53.	41.	31.	22.	15.	8.	3.	2.	2.
	87.5	67.	59.	45.	33.	23.	15.	8.	3.	2.	2.
	85.0	75.	65.	50.	37.	26.	17.	9.	5.	3.	3.
	82.5	83.	73.	55.	41.	30.	20.	12.	7.	6.	5.
V	80.0	92.	80.	61.	46.	34.	24.	16.	10.	9.	8.
E	77.5	101.	88.	67.	51.	38.	28.	20.	14.	12.	12.
R	75.0	109.	97.	74.	56.	43.	32.	23.	18.	16.	15.
T	72.5	118.	105.	81.	62.	48.	37.	27.	22.	20.	19.
I	70.0	129.	114.	89.	68.	54.	42.	32.	26.	24.	23.
C	67.5	138.	123.	97.	76.	59.	47.	37.	31.	29.	28.
A	65.0	148.	132.	105.	83.	66.	52.	42.	36.	34.	33.
L	62.5	157.	141.	113.	90.	72.	59.	48.	42.	39.	38.
	60.0	166.	150.	122.	98.	79.	65.	54.	47.	44.	43.
A	57.5<<	175.	160.	130.	106.	86.	71.	60.	53.	50.	49.
N	55.0	185.	168.	140.	114.	94.	79.	67.	59.	56.	55.
G	52.5	195.	179.	150.	124.	103.	86.	74.	66.	63.	62.
L	50.0	206.	190.	160.	134.	112.	95.	82.	74.	70.	69.
E	47.5	218.	201.	172.	145.	122.	104.	91.	82.	78.	76.
	45.0	231.	214.	184.	156.	133.	114.	100.	91.	87.	85.
	42.5	243.	226.	196.	168.	144.	125.	110.	101.	96.	93.
	40.0	257.	240.	209.	181.	156.	136.	121.	111.	105.	103.
	37.5	271.	254.	224.	195.	169.	149.	133.	123.	117.	115.
	35.0	286.	269.	239.	210.	184.	163.	146.	135.	129.	126.
	32.5	300.	284.	254.	225.	199.	177.	161.	149.	143.	139.
	30.0	315.	298.	269.	240.	214.	193.	176.	164.	157.	153.
	27.5	328.	312.	283.	256.	231.	210.	192.	180.	172.	170.
	25.0	340.	325.	298.	272.	248.	227.	209.	198.	190.	188.
	20.0	365.	352.	328.	305.	283.	266.	249.	239.	231.	228.
	15.0	384.	374.	355.	337.	320.	304.	293.	283.	276.	273.
	10.0	399.	392.	378.	366.	354.	344.	335.	328.	324.	320.
	5.0	405.	401.	395.	388.	382.	376.	373.	369.	368.	365.
	0.0	404.	404.	404.	404.	404.	404.	404.	404.	404.	404.

CONE OF MAXIMUM CANDELA

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CATALOG NUMBER: BRISKS17L-740

5-DEGREE ZONAL LUMEN SUMMARY

0- 5	10
5- 10	29
10- 15	46
15- 20	62
20- 25	74
25- 30	84
30- 35	91
35- 40	95
40- 45	98
45- 50	101
50- 55	102
55- 60	102
60- 65	101
65- 70	97
70- 75	91
75- 80	84
80- 85	75
85- 90	65
90- 95	56
95-100	48
100-105	41
105-110	35
110-115	29
115-120	25
120-125	21
125-130	17
130-135	14
135-140	11
140-145	9
145-150	7
150-155	5
155-160	3
160-165	2
165-170	1
170-175	0
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	38
0- 20	146
0- 30	304
0- 40	490
0- 50	689
0- 60	893
0- 70	1092
0- 80	1266
0- 90	1406
0-100	1509
0-110	1585
0-120	1639
0-130	1677
0-140	1702
0-150	1718
0-160	1726
0-170	1729
0-180	1729

REPORT NUMBER: RAB04502
DATE: 7/30/2018
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING
CATALOG NUMBER: BRISKS17L-740

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR,
1 WHITE CIRCUIT BOARD WITH 24 LEDS, MOLDED FROSTED PLASTIC LENS.

LAMP: TWENTY-FOUR WHITE LIGHT EMITTING DIODES (LEDS), TILTED 30-DEGREE
FROM VERTICAL BASE-UP POSITION.

DRIVER: RD-014-EGH-A0450

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	3/08/19
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	05/24/19

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 (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 X.CAO

Approved D.WANG-MUNSON
Lighting Engineer

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	1729 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3821
Chromaticity Ordinate y	0.3797
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2250
Chromaticity Ordinate v'	0.5031
Correlated Color Temp CCT (K)	3978
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	4927 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.054
Input Power (Watts)	13.7
Input Power Factor (%)	91.0
Input Current THD (%)	17.8
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	126.2
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.109
Input Power (Watts)	13.0
Input Power Factor (%)	99.3
Input Current THD (%)	11.8
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	72
R1 Light greyish red	68
R2 Dark greyish yellow	80
R3 Strong yellowish green	89
R4 Moderate yellowish green	71
R5 Light bluish green	69
R6 Light blue	72
R7 Light violet	80
R8 Light reddish purple	49
R9 Strong red	-36
R10 Strong yellow	52
R11 Strong green	66
R12 Strong blue	44
R13 Light yellowish pink (skin)	70
R14 Moderate olive green (leaf)	94

*NOTE:

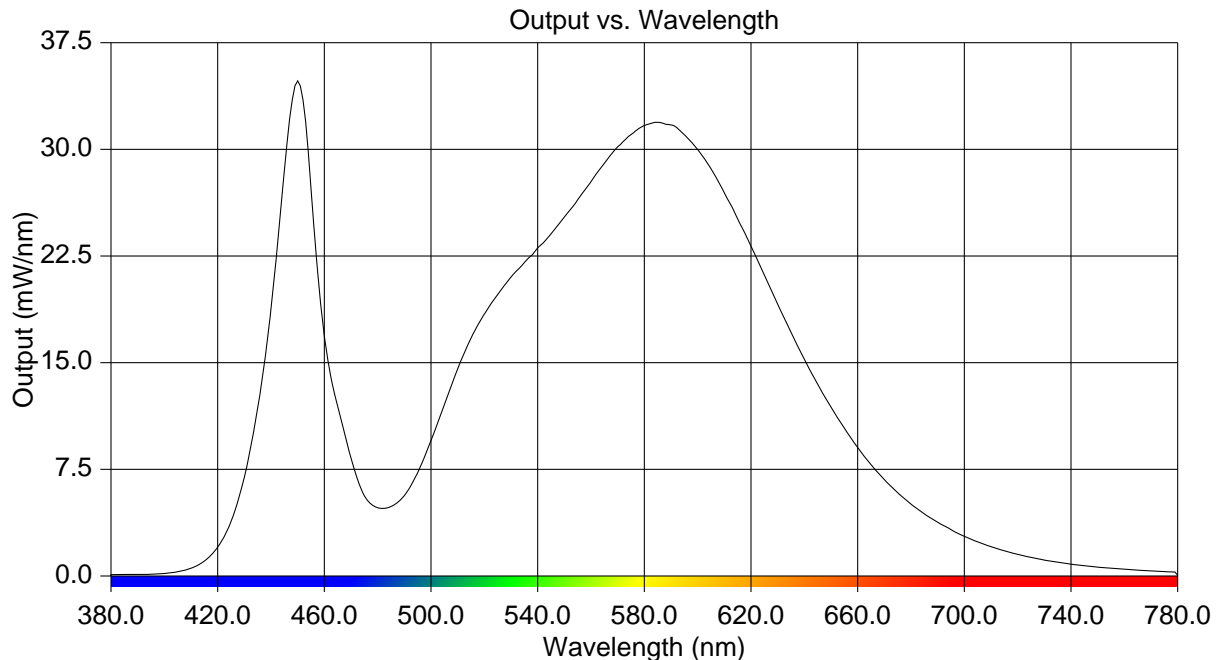
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even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

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.091	515	16.737	650	11.858
385	0.100	520	18.427	655	10.403
390	0.105	525	19.788	660	9.026
395	0.128	530	21.021	665	7.819
400	0.177	535	22.038	670	6.774
405	0.293	540	23.073	675	5.859
410	0.548	545	24.053	680	5.056
415	1.048	550	25.215	685	4.363
420	2.029	555	26.453	690	3.760
425	3.835	560	27.727	695	3.262
430	6.934	565	29.012	700	2.787
435	11.768	570	30.181	705	2.392
440	18.817	575	31.035	710	2.064
445	28.540	580	31.664	715	1.772
450	34.815	585	31.899	720	1.518
455	27.253	590	31.715	725	1.300
460	16.899	595	31.052	730	1.122
465	11.937	600	29.994	735	0.968
470	8.287	605	28.626	740	0.833
475	5.676	610	26.919	745	0.721
480	4.801	615	25.108	750	0.627
485	4.892	620	23.195	755	0.542
490	5.665	625	21.166	760	0.469
495	7.258	630	19.111	765	0.406
500	9.522	635	17.102	770	0.355
505	12.017	640	15.236	775	0.309
510	14.559	645	13.486	780	0.047



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CIE Chromaticity Diagram

