

**REPORT NUMBER:** RAB04501

**PAGE:** 1 OF 10

**ISSUE DATE:** 09/21/18

**DATE SAMPLE TESTED:** 07/30/18

**PREPARED FOR:** RAB LIGHTING INC. RC LIGHTING

**CATALOG NUMBER:** BRISKS11L-740

**LUMINAIRE:** CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR, 1 WHITE CIRCUIT BOARD WITH 15 LEDS, MOLDED FROSTED PLASTIC LENS.

**LAMPS:** FIFTEEN 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 = 9.412 W AT 277.0 VAC.

**LED DRIVER:** LED DRIVER: RD-08-EGH-A0450

**PROCEDURE:** TEST PROCEDURE: IESNA LM-79-08

**NOTE:** LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE AMBIENT: 25.1

**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

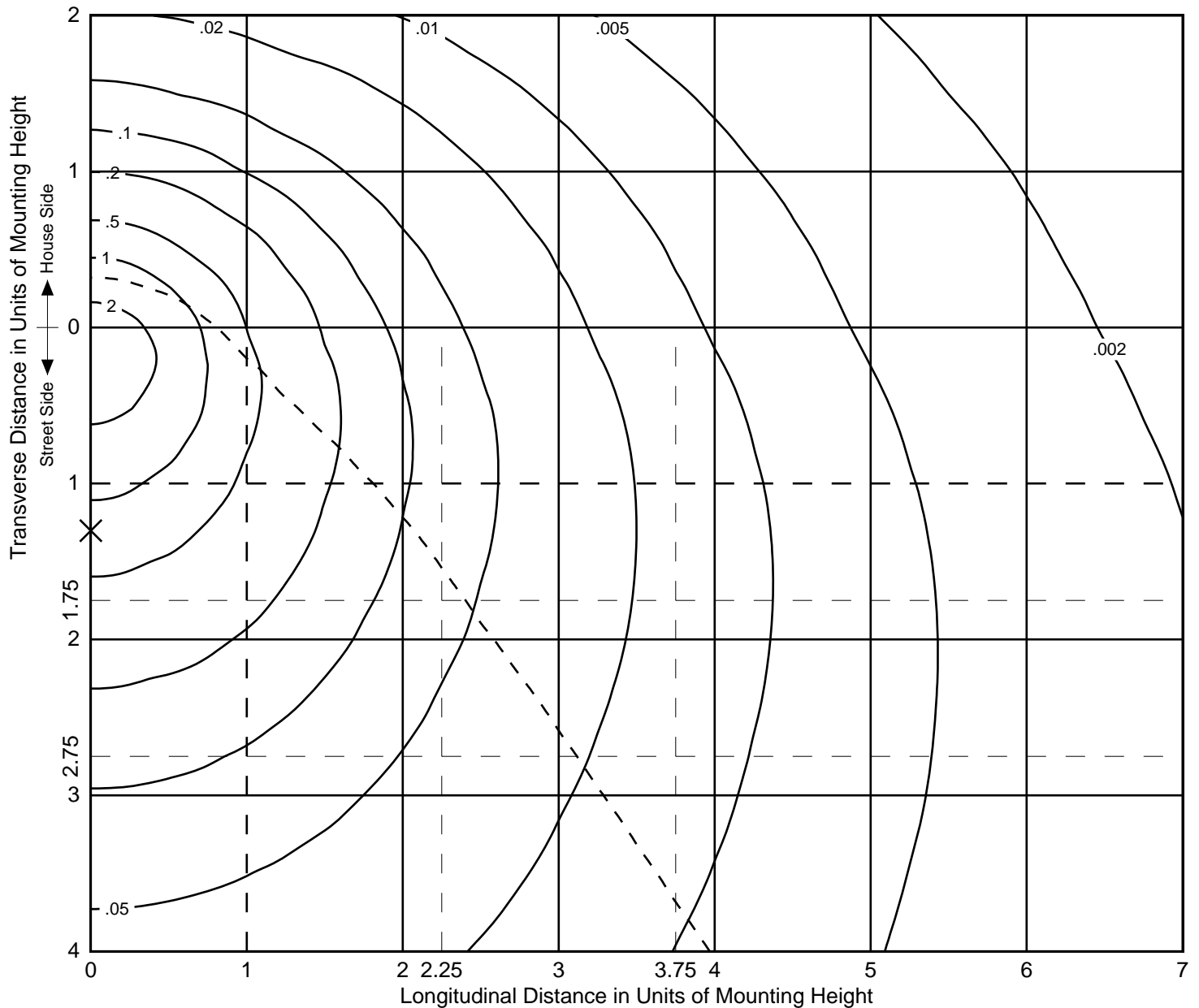
Values based on 10-foot mounting height

IES Classification: (does not classify)

Cutoff Classification (deprecated): Noncutoff

--- 1/2 Maximum Candela trace

× Maximum Candela point



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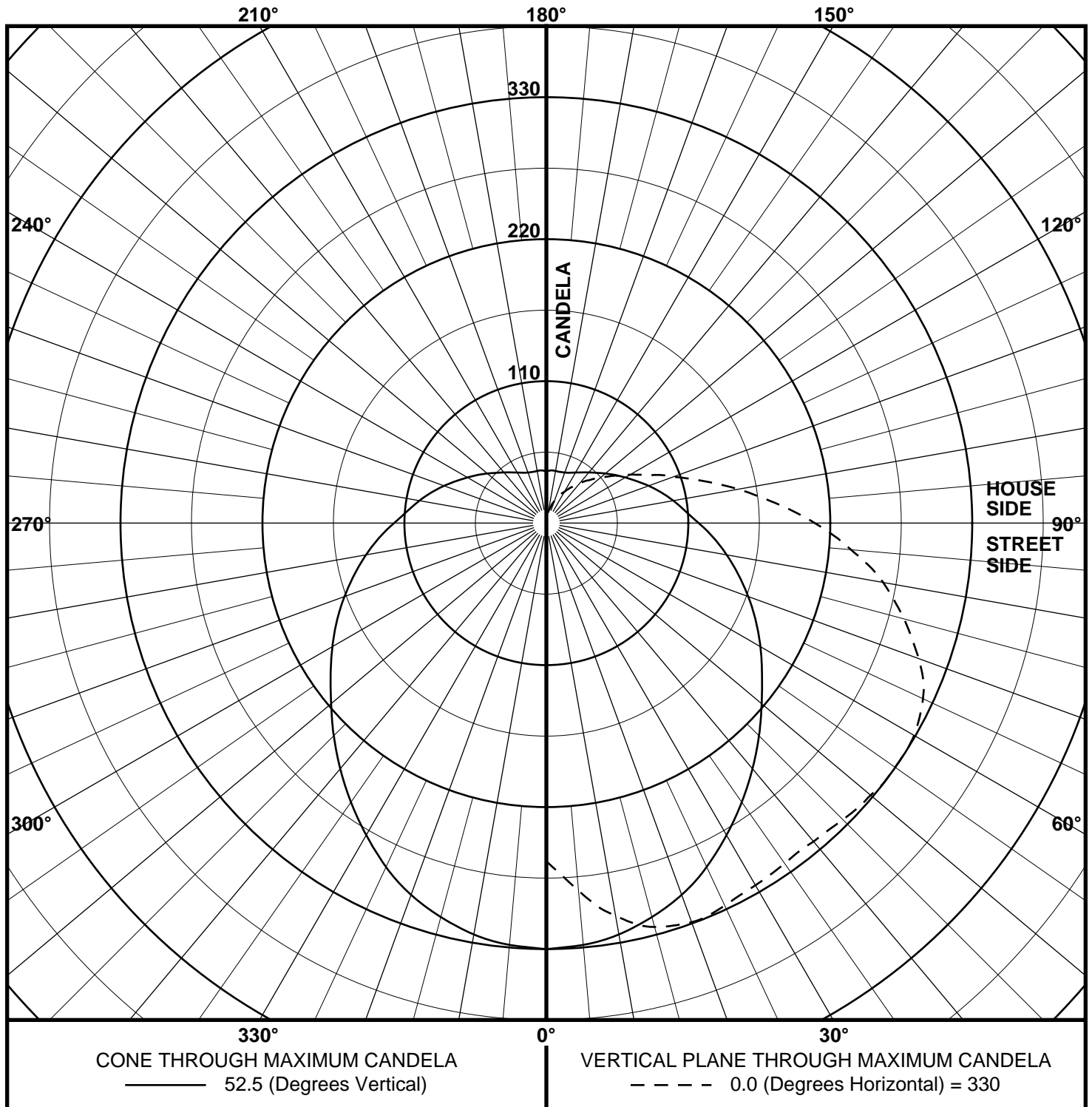
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MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA



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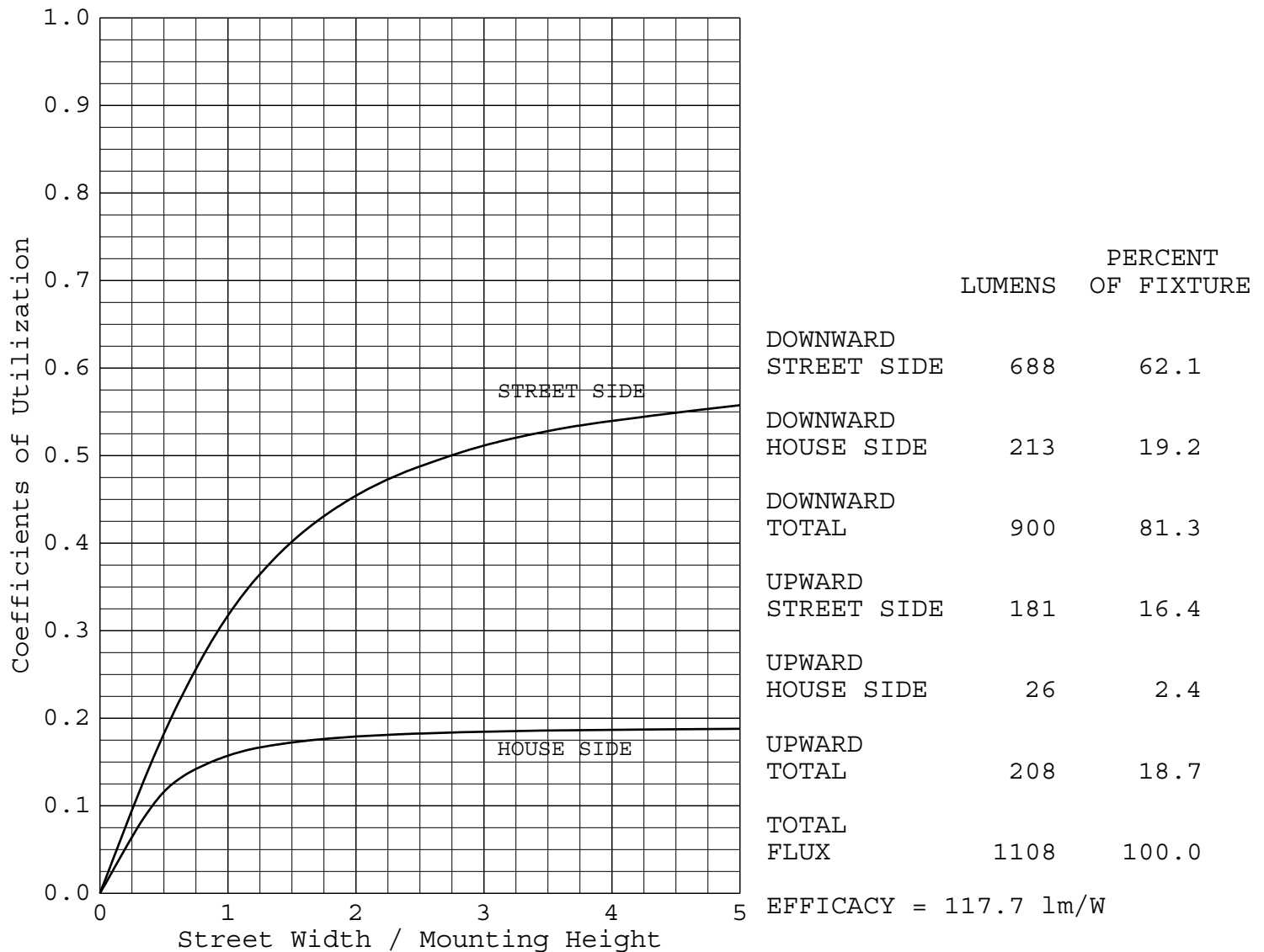
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## COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



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			B0 U3 G1		
Zonal Summary			Zone Ratings		
			B	U	G
Forward					
FL	(0° – 30°)	688			
FM	(30° – 60°)	122.1			
FH	(60° – 80°)	281.6			
FVH	(80° – 90°)	203.3			G0
		80.8			G1
Backward					
BL	(0° – 30°)	213			
BM	(30° – 60°)	75.2	B0		
BH	(60° – 80°)	93.8	B0		
BVH	(80° – 90°)	34.8	B0		G0
		8.9			G0
Upward					
UL	(90° – 100°)	208			
UH	(100° – 180°)	66.8		U3	
		141.0		U3	
Trapped Light					
Total Flux					
		0			
		1108			
		100.0			

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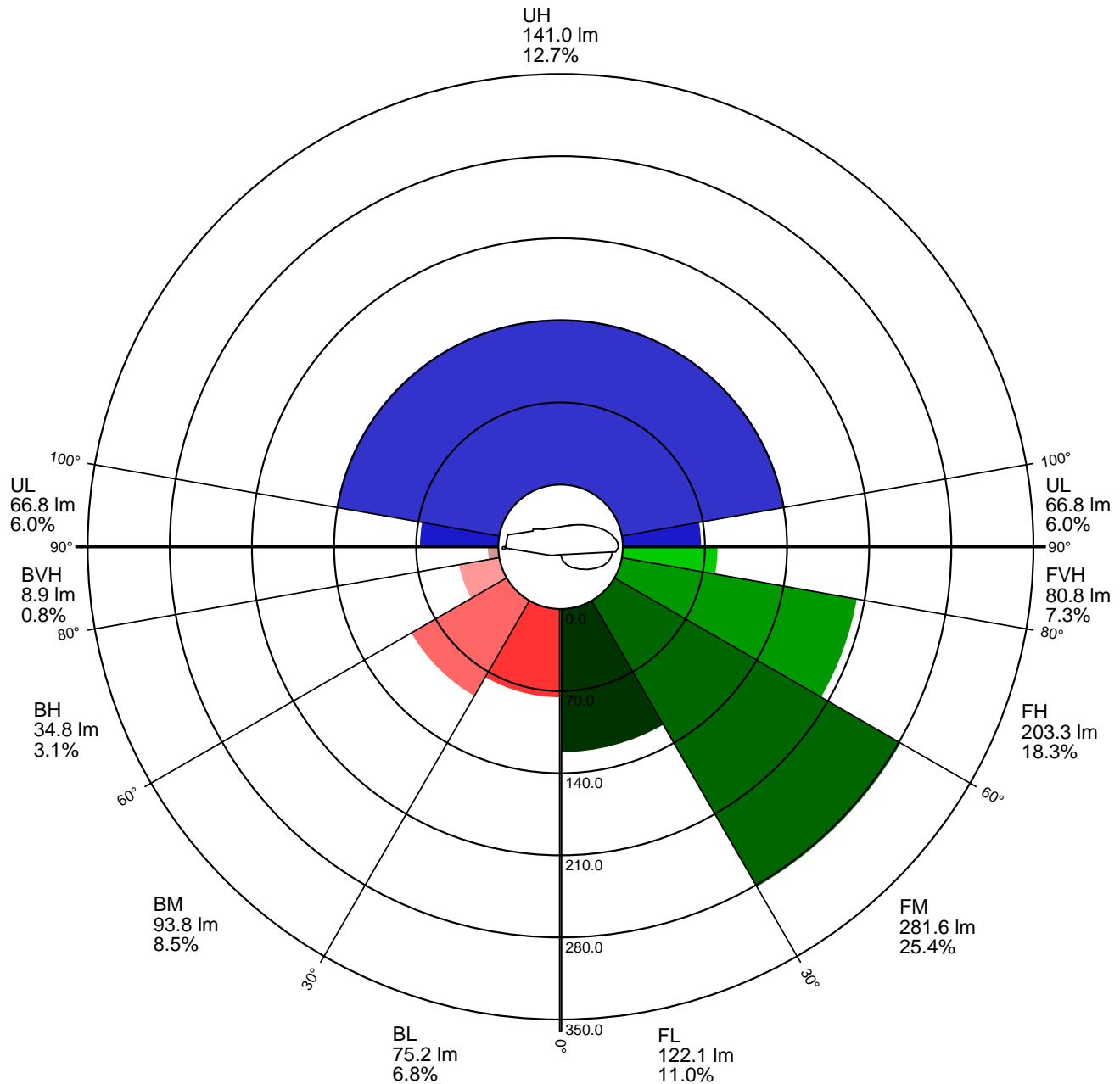
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## Zonal Lumen Summary

(Linear scale)



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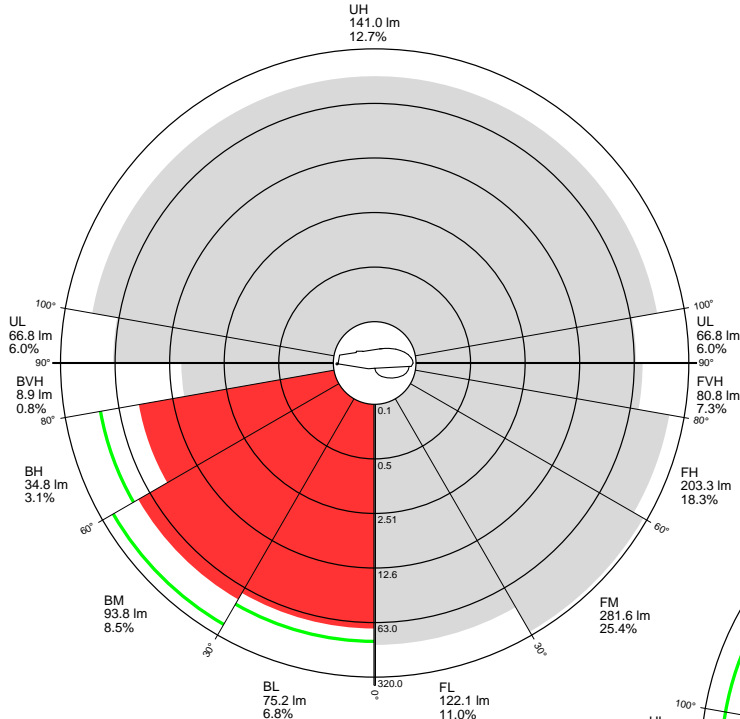
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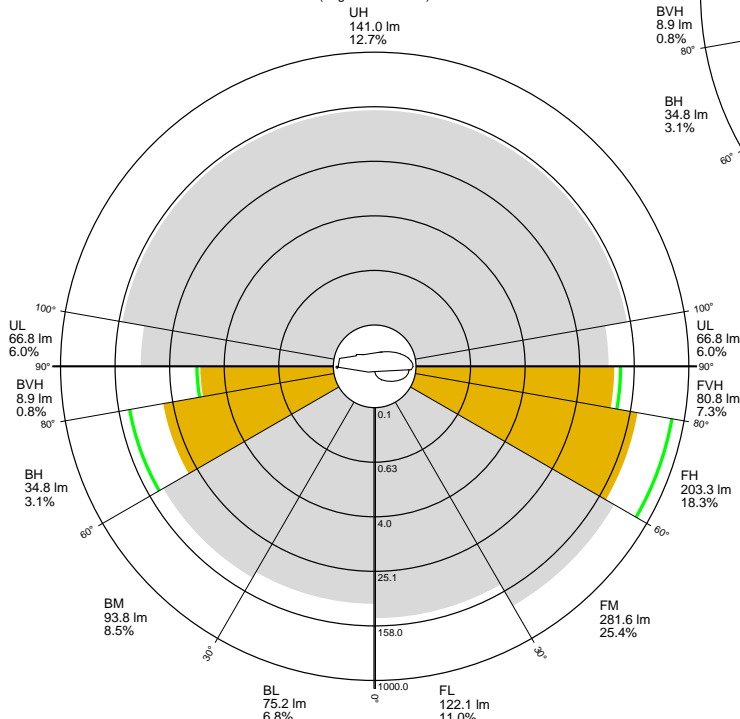
### Backlight Rating Details

(Logarithmic scale)



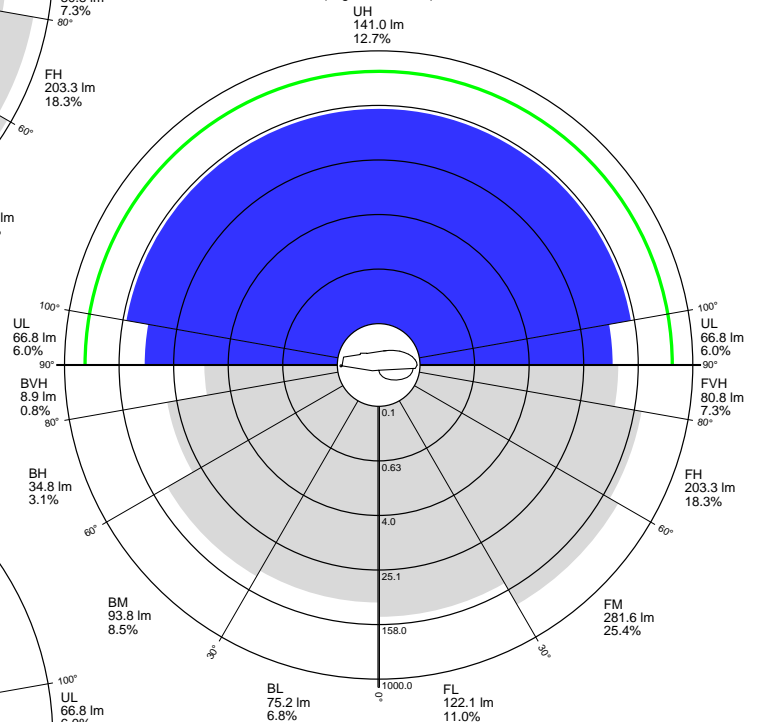
### Glare Rating Details

(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.	0.	1.	1.	2.	2.	2.	2.	2.
	165.0	13.	13.	13.	13.	12.	12.	11.	10.	9.	8.	6.
	155.0	23.	23.	23.	22.	21.	21.	19.	18.	15.	13.	10.
	145.0	34.	34.	34.	33.	32.	30.	28.	25.	22.	19.	15.
	135.0	47.	47.	47.	45.	43.	40.	37.	33.	29.	24.	19.
	125.0	64.	64.	64.	61.	57.	52.	47.	42.	36.	29.	23.
	115.0	88.	88.	88.	84.	77.	69.	61.	52.	43.	35.	27.
	105.0	126.	127.	126.	119.	108.	94.	80.	66.	54.	43.	32.
	95.0	178.	178.	176.	168.	151.	129.	107.	87.	71.	55.	40.
	92.5	193.	193.	192.	183.	165.	140.	115.	94.	76.	59.	43.
	90.0	208.	208.	208.	197.	178.	152.	125.	102.	82.	64.	47.
	87.5	223.	223.	222.	212.	192.	164.	135.	110.	90.	70.	51.
	85.0	237.	237.	236.	226.	204.	175.	144.	118.	97.	77.	56.
V	82.5	252.	252.	251.	239.	217.	187.	154.	127.	105.	84.	62.
E	80.0	265.	264.	264.	251.	229.	197.	164.	136.	112.	90.	68.
R	77.5	276.	276.	275.	263.	240.	207.	172.	143.	120.	97.	74.
T	75.0	287.	287.	286.	273.	249.	216.	180.	151.	126.	103.	79.
I	72.5	297.	297.	296.	283.	259.	225.	188.	158.	133.	109.	85.
C	70.0	307.	306.	306.	293.	268.	233.	197.	166.	140.	116.	91.
A	67.5	316.	315.	314.	301.	276.	241.	204.	173.	147.	123.	97.
L	65.0	322.	321.	320.	307.	282.	247.	210.	179.	153.	127.	102.
	62.5	326.	326.	325.	312.	287.	252.	215.	184.	158.	133.	108.
A	60.0	329.	329.	328.	315.	290.	256.	220.	189.	164.	138.	113.
N	57.5	330.	330.	329.	316.	292.	259.	225.	194.	168.	143.	118.
G	55.0	330.	330.	329.	316.	293.	262.	228.	199.	173.	148.	124.
L	52.5<<	330.	329.	328.	316.	294.	264.	233.	204.	179.	154.	130.
E	50.0	328.	328.	327.	316.	295.	267.	237.	210.	185.	161.	136.
	47.5	327.	327.	326.	315.	295.	270.	242.	216.	192.	168.	144.
	45.0	325.	325.	324.	314.	296.	272.	248.	223.	200.	176.	152.
	42.5	323.	323.	322.	313.	297.	276.	253.	231.	208.	185.	161.
	40.0	322.	321.	321.	313.	299.	280.	260.	239.	217.	194.	170.
	37.5	321.	321.	320.	313.	301.	285.	267.	247.	226.	204.	180.
	35.0	322.	322.	321.	315.	305.	291.	275.	256.	236.	214.	191.
	32.5	323.	323.	322.	317.	309.	297.	282.	265.	246.	224.	201.
	30.0	324.	324.	324.	320.	312.	302.	288.	272.	254.	232.	211.
	25.0	327.	327.	326.	323.	318.	310.	299.	284.	267.	248.	228.
	20.0	329.	329.	329.	326.	321.	314.	304.	292.	277.	261.	243.
	15.0	324.	324.	323.	321.	317.	311.	303.	293.	281.	268.	255.
	10.0	309.	309.	309.	308.	305.	301.	295.	288.	280.	271.	262.
	5.0	286.	287.	286.	286.	284.	283.	280.	277.	273.	269.	264.
	0.0	262.	262.	262.	262.	262.	262.	262.	262.	262.	262.	262.

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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### 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.	1.	1.	1.	1.	0.	0.	0.
	165.0	6.	5.	5.	4.	3.	2.	1.	1.	1.	0.
	155.0	10.	9.	7.	6.	5.	3.	2.	1.	1.	0.
	145.0	13.	12.	11.	9.	7.	5.	3.	1.	1.	0.
	135.0	17.	16.	14.	11.	9.	6.	3.	1.	1.	0.
	125.0	20.	19.	16.	14.	11.	7.	4.	2.	1.	1.
	115.0	23.	22.	19.	15.	12.	8.	4.	2.	1.	1.
	105.0	28.	26.	21.	17.	13.	9.	5.	2.	1.	1.
	95.0	34.	31.	25.	19.	14.	9.	5.	2.	1.	1.
	92.5	37.	33.	26.	20.	15.	10.	5.	2.	2.	2.
	90.0	39.	34.	27.	20.	15.	10.	5.	2.	2.	2.
	87.5	43.	38.	29.	22.	15.	10.	6.	2.	2.	2.
	85.0	48.	42.	32.	24.	17.	12.	7.	3.	2.	2.
V	82.5	53.	46.	36.	27.	20.	13.	8.	5.	4.	4.
E	80.0	58.	51.	39.	30.	22.	16.	11.	7.	6.	6.
R	77.5	63.	56.	43.	33.	25.	18.	13.	10.	8.	8.
T	75.0	68.	60.	47.	36.	28.	21.	15.	12.	11.	10.
I	72.5	74.	66.	51.	40.	31.	24.	18.	15.	13.	13.
C	70.0	79.	71.	56.	44.	34.	27.	21.	18.	16.	16.
A	67.5	85.	76.	61.	48.	38.	30.	24.	20.	19.	19.
L	65.0	90.	81.	65.	52.	42.	33.	27.	23.	22.	22.
	62.5	96.	86.	70.	56.	46.	37.	31.	27.	26.	25.
A	60.0	101.	91.	75.	61.	50.	41.	35.	31.	29.	29.
N	57.5	106.	97.	80.	66.	55.	46.	39.	35.	33.	32.
G	55.0	112.	102.	85.	71.	60.	50.	44.	39.	37.	36.
L	52.5<<	118.	108.	92.	77.	65.	55.	48.	43.	41.	40.
E	50.0	125.	115.	98.	83.	71.	61.	53.	48.	46.	45.
	47.5	132.	123.	105.	90.	77.	66.	59.	54.	51.	50.
	45.0	140.	131.	113.	97.	84.	73.	65.	60.	57.	56.
	42.5	149.	139.	122.	105.	91.	80.	71.	66.	63.	62.
	40.0	159.	148.	131.	114.	99.	87.	78.	73.	69.	68.
	37.5	169.	158.	140.	123.	108.	96.	86.	80.	77.	75.
	35.0	179.	169.	150.	133.	117.	105.	95.	88.	85.	83.
	32.5	190.	179.	161.	143.	127.	114.	104.	97.	93.	91.
	30.0	200.	189.	171.	153.	138.	125.	114.	107.	102.	101.
	25.0	218.	208.	191.	174.	159.	146.	136.	128.	124.	121.
	20.0	235.	226.	211.	196.	183.	171.	161.	154.	149.	147.
	15.0	248.	241.	229.	217.	206.	196.	188.	182.	178.	176.
	10.0	258.	253.	244.	236.	229.	222.	216.	211.	209.	207.
	5.0	262.	260.	255.	250.	247.	243.	241.	239.	237.	236.
	0.0	262.	262.	262.	262.	262.	262.	262.	262.	262.	262.

CONE OF MAXIMUM CANDELA

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**CATALOG NUMBER:** BRISKS11L-740

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	6
5- 10	19
10- 15	30
15- 20	40
20- 25	48
25- 30	54
30- 35	58
35- 40	61
40- 45	63
45- 50	64
50- 55	65
55- 60	65
60- 65	64
65- 70	62
70- 75	58
75- 80	54
80- 85	48
85- 90	42
90- 95	36
95-100	31
100-105	26
105-110	22
110-115	19
115-120	16
120-125	13
125-130	11
130-135	9
135-140	7
140-145	6
145-150	4
150-155	3
155-160	2
160-165	1
165-170	1
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	25
0- 20	95
0- 30	197
0- 40	317
0- 50	443
0- 60	573
0- 70	699
0- 80	811
0- 90	900
0-100	967
0-110	1016
0-120	1050
0-130	1074
0-140	1091
0-150	1101
0-160	1106
0-170	1108
0-180	1108

REPORT NUMBER: RAB04503  
DATE: 7/30/2018  
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING  
CATALOG NUMBER: BRISKS11L-740

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST BROWN PAINTED METAL HOUSING, FORMED SPECULAR PAINTED REFLECTOR, 1 WHITE CIRCUIT BOARD WITH 15 LEDS, MOLDED FROSTED PLASTIC LENS.

LAMP: FIFTEEN WHITE LIGHT EMITTING DIODES (LEDs), TILTED 30-DEGREE FROM VERTICAL BASE-UP POSITION.

DRIVER: RD-08-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: N/A
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	3/08/19
	OCEAN OPTICS QE65PRO Spectroradiometer	05/24/19
	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)	1108 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3823
Chromaticity Ordinate y	0.3803
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2249
Chromaticity Ordinate v'	0.5034
Correlated Color Temp CCT (K)	3975
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	3153 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.037
Input Power (Watts)	9.41
Input Power Factor (%)	91.3
Input Current THD (%)	14.4
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	117.7
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.066
Input Power (Watts)	7.91
Input Power Factor (%)	99.6
Input Current THD (%)	8.2
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	67
R12 Strong blue	44
R13 Light yellowish pink (skin)	70
R14 Moderate olive green (leaf)	94

### \*NOTE:

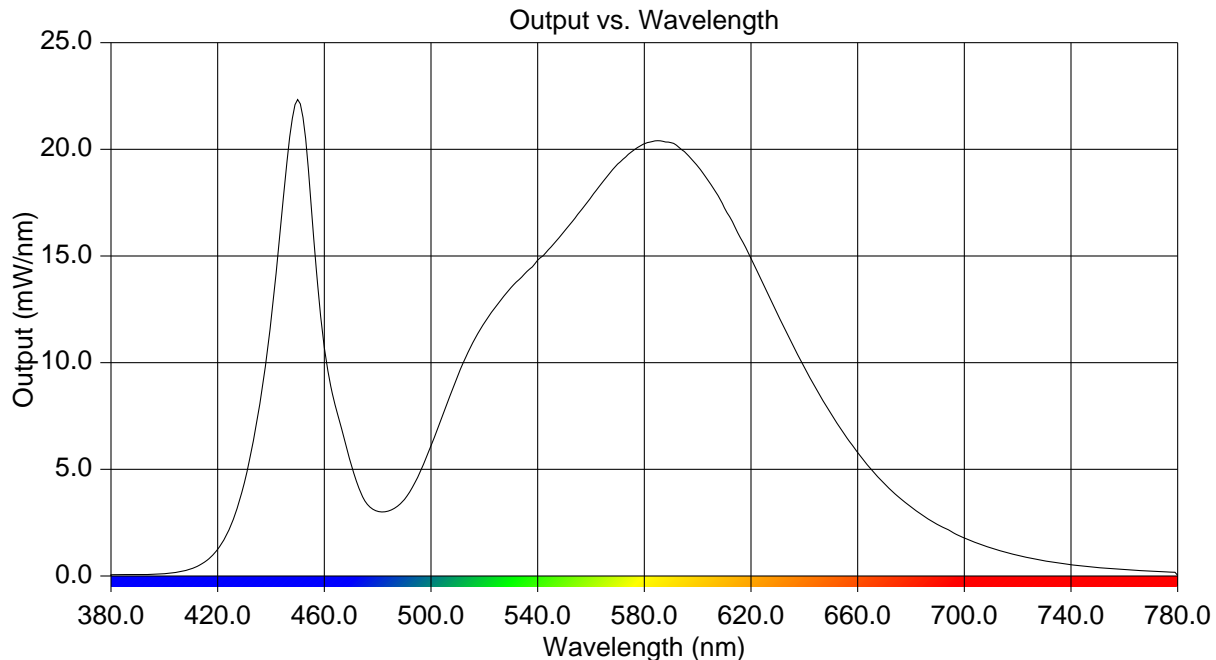
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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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CATALOG NUMBER: BRISKS11L-740

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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.057	515	10.772	650	7.602
385	0.063	520	11.873	655	6.653
390	0.065	525	12.740	660	5.782
395	0.077	530	13.517	665	5.013
400	0.112	535	14.147	670	4.334
405	0.178	540	14.807	675	3.741
410	0.331	545	15.421	680	3.235
415	0.645	550	16.150	685	2.790
420	1.250	555	16.948	690	2.404
425	2.395	560	17.748	695	2.093
430	4.362	565	18.566	700	1.774
435	7.456	570	19.311	705	1.532
440	11.997	575	19.863	710	1.315
445	18.219	580	20.258	715	1.130
450	22.334	585	20.404	720	0.970
455	17.470	590	20.312	725	0.830
460	10.718	595	19.897	730	0.713
465	7.572	600	19.209	735	0.616
470	5.255	605	18.343	740	0.530
475	3.583	610	17.263	745	0.461
480	3.028	615	16.094	750	0.396
485	3.097	620	14.886	755	0.342
490	3.587	625	13.574	760	0.298
495	4.622	630	12.273	765	0.259
500	6.113	635	10.977	770	0.227
505	7.731	640	9.772	775	0.197
510	9.369	645	8.650	780	0.030



REPORT NUMBER: RAB04503  
DATE: 7/30/2018  
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## CIE Chromaticity Diagram

