

REPORT NUMBER: PRORATED FROM RAB02635

PAGE: 1 OF 9

ISSUE DATE: 12/13/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: SHARK8-100YW/D10

LUMINAIRE: FABRICATED WHITE PLASTIC HOUSING, PERFORATED WHITE METAL HEAT SINK, 4 WHITE CIRCUIT BOARDS EACH WITH 64 LEDS, FROSTED POLYCARBONATE LENS ENCLOSURE.

LAMPS: TWO HUNDRED AND FIFTY SIX WHITE EMITTING DIODES (LEDs), TILTED 15-DEGREE FROM VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 95.3 AT 277.0 VOLTS

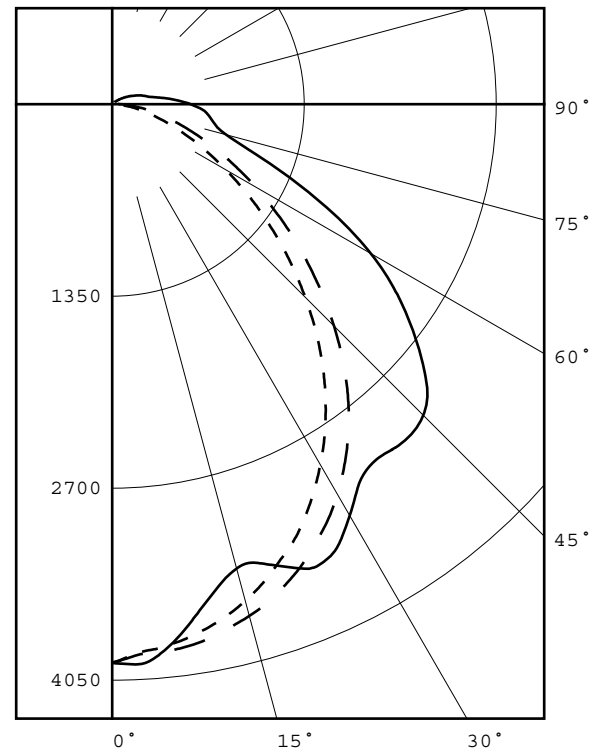
LED DRIVERS: 2 X RD-052-A1050-C-089C

\*(SEE PAGE 2 FOR MORE INFORMATION)\*

### CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0
0	3929	3929	3929	3929	3929
5	3838	3892	3881	3924	3872
15	3615	3432	3380	3494	3726
25	3205	3212	3542	3294	3396
35	2617	3091	3130	3234	2888
45	1920	2576	3093	2735	2205
55	1230	2280	2507	2492	1489
65	670	1515	1601	1733	877
75	291	774	831	895	435
85	66	442	663	517	150
90	4	353	549	417	57
95	4	275	415	326	39
105	4	125	230	155	27
115	4	48	132	64	16
125	4	14	50	20	11
135	5	9	14	11	7
145	7	7	9	7	7
155	7	5	7	5	7
165	7	5	5	4	7
175	7	5	5	5	7
180	5	5	5	5	5

### FLUX



#### LEGEND:

0-deg: - - - - -  
 90-deg: \_\_\_\_\_  
 180-deg: - . - . - .

### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	2888	24.1
0- 40	4770	39.9
0- 60	8768	73.3
0- 90	11448	95.6
90-120	483	4.0
90-130	505	4.2
90-150	517	4.3
90-180	522	4.4
0-180	11970	100.0

TOTAL INPUT WATTS = 95.3

EFFICACY = 125.6 Lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 1.1 1.3 1.2

Checked X.CAO  
 Approved D.WANG-MUNSON

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## ADDITIONAL INFORMATION

THIS REPORT WAS PRORATED FROM RAB TEST NUMBER 2635 WHICH WAS A 4' (128 LED) LUMINAIRE. THE DATA WAS DOUBLED TO REPRESENT AN 8' LUMINAIRE WITH 256 LEDS AND USING TWO OF THE SAME DRIVERS AS WAS USED FOR THE 4' TEST. ACTUAL PERFORMANCE MAY VARY.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 28.25 FEET

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PLANE : 0-DEG 90-DEG  
BEAM ANGLE (50%) : 92.3 X 122.5 DEGREES  
FIELD ANGLE (10%): 147.9 X 191.5 DEGREES

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PLANE : 0-DEG 90-DEG  
LUMINOUS LENGTH : 96.060 5.150  
HEIGHT OF SIDE : 1.860 1.860

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	8343.	10065.	9582.
55	6536.	9029.	7910.
65	4770.	6686.	6241.
75	3279.	4282.	4909.
85	1941.	4647.	4406.



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### ZONAL LUMEN SUMMARY

0- 5	94.
5- 10	272.
10- 15	426.
15- 20	565.
20- 25	704.
25- 30	827.
30- 35	912.
35- 40	970.
40- 45	1019.
45- 50	1041.
50- 55	1012.
55- 60	926.
60- 65	788.
65- 70	617.
70- 75	454.
75- 80	338.
80- 85	267.
85- 90	214.
90- 95	165.
95-100	118.
100-105	80.
105-110	56.
110-115	39.
115-120	25.
120-125	14.
125-130	8.
130-135	5.
135-140	3.
140-145	3.
145-150	2.
150-155	2.
155-160	1.
160-165	1.
165-170	1.
170-175	0.
175-180	0.

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### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	94
5- 10	272
10- 15	426
15- 20	565
20- 25	704
25- 30	827
30- 35	912
35- 40	970
40- 45	1019
45- 50	1041
50- 55	1012
55- 60	926
60- 65	788
65- 70	617
70- 75	454
75- 80	338
80- 85	267
85- 90	214
90- 95	165
95-100	118
100-105	80
105-110	56
110-115	39
115-120	25
120-125	14
125-130	8
130-135	5
135-140	3
140-145	3
145-150	2
150-155	2
155-160	1
160-165	1
165-170	1
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	365
0- 20	1356
0- 30	2888
0- 40	4770
0- 50	6831
0- 60	8768
0- 70	10173
0- 80	10966
0- 90	11448
0-100	11731
0-110	11867
0-120	11931
0-130	11952
0-140	11960
0-150	11965
0-160	11968
0-170	11969
0-180	11970

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### COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	85	83	81	78
2	97	88	81	75	94	86	79	74	82	76	71	78	73	69	74	70	67	64
3	88	77	69	62	85	75	67	61	72	65	60	68	63	58	65	60	56	54
4	80	68	59	52	78	67	58	52	63	56	50	61	54	49	58	53	48	46
5	74	61	52	45	71	59	51	44	57	49	43	54	48	43	52	46	42	39
6	68	55	45	39	66	53	45	39	51	43	38	49	42	37	47	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	45	38	33	43	37	32	30
8	59	45	36	30	57	44	36	30	42	35	30	41	34	29	39	33	29	27
9	55	41	33	27	53	40	32	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	24	36	29	24	35	28	24	34	28	23	22

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES 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.

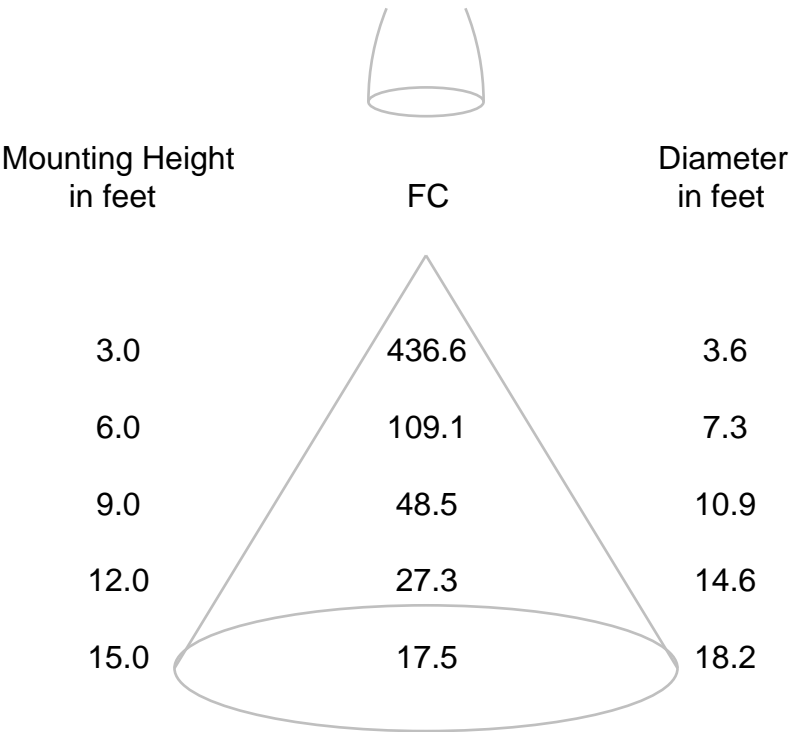


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# CONE OF LIGHT DIAGRAM

(diameter shown is where fc value is half the fc at nadir)



Note: The candela values used to generate this diagram were obtained by averaging the photometric data into a single plane.

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CATALOG NUMBER: SHARK8-100YW/D10

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: FABRICATED WHITE PLASTIC HOUSING, PERFORATED WHITE METAL HEAT SINK, 4 WHITE CIRCUIT BOARDS EACH WITH 64 LEDS, FROSTED POLYCARBONATE LENS ENCLOSURE.

LAMP: TWO HUNDRED AND FIFTY SIX WHITE EMITTING DIODES (LEDs), TILTED 15-DEGREE FROM VERTICAL BASE-UP POSITION.

DRIVER: 2 X RD-052-A1050-C-089C

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	2/26/17
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	12/05/17

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 (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

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### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	11970 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4320
Chromaticity Ordinate y	0.4014
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2485
Chromaticity Ordinate v'	0.5196
Correlated Color Temp CCT (K)	3063
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	34187 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.360
Input Power (Watts)	95.3
Input Power Factor (%)	95.6
Input Current THD (%)	10.4
Input Voltage THD (%)	0.1
EFFICACY (Lumens/Watt)	
	125.6
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.794
Input Power (Watts)	94.6
Input Power Factor (%)	99.3
Input Current THD (%)	7.2
Input Voltage THD (%)	0.1
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	74
R1 Light greyish red	70
R2 Dark greyish yellow	85
R3 Strong yellowish green	95
R4 Moderate yellowish green	69
R5 Light bluish green	71
R6 Light blue	81
R7 Light violet	77
R8 Light reddish purple	44
R9 Strong red	-30
R10 Strong yellow	67
R11 Strong green	65
R12 Strong blue	56
R13 Light yellowish pink (skin)	73
R14 Moderate olive green (leaf)	98

### \*NOTE:

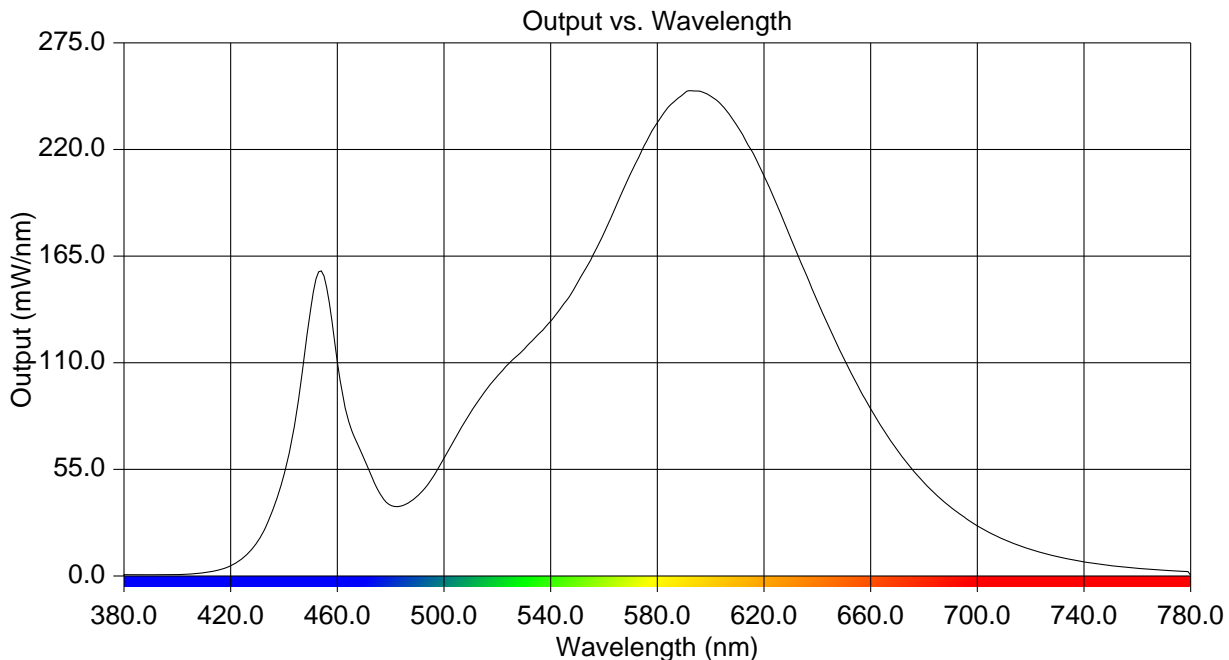
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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.626	515	94.466	650	111.953
385	0.630	520	103.065	655	98.621
390	0.644	525	110.424	660	86.265
395	0.644	530	116.786	665	74.957
400	0.783	535	124.091	670	64.901
405	1.030	540	131.350	675	55.887
410	1.634	545	140.466	680	48.119
415	2.922	550	151.131	685	41.416
420	5.305	555	162.878	690	35.394
425	9.734	560	176.737	695	30.492
430	17.506	565	192.327	700	25.853
435	31.310	570	207.798	705	21.952
440	52.050	575	221.731	710	18.736
445	86.922	580	233.669	715	16.080
450	137.559	585	243.043	720	13.738
455	154.703	590	248.730	725	11.731
460	110.384	595	250.072	730	9.995
465	76.566	600	247.461	735	8.478
470	60.451	605	241.547	740	7.273
475	44.905	610	231.882	745	6.262
480	36.362	615	220.144	750	5.353
485	36.587	620	206.359	755	4.601
490	41.147	625	191.260	760	3.963
495	49.260	630	174.233	765	3.422
500	60.678	635	157.962	770	2.945
505	73.123	640	141.769	775	2.535
510	84.498	645	126.428	780	0.385



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## CIE Chromaticity Diagram

