

REPORT NUMBER: RAB00746

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ISSUE DATE: 03/16/15

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: FALCOR80W

LUMINAIRE: ONE LUMINAIRE CONSISTING OF TWO OPPOSING LIGHT HEADS, EACH LIGHT HEAD CONSISTING OF: CAST FINNED METAL HOUSING, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, ONE CIRCUIT BOARD WITH 16 LEDS, CLEAR FLAT PRISMATIC GLASS LENS.

LAMP: THIRTY-TWO WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

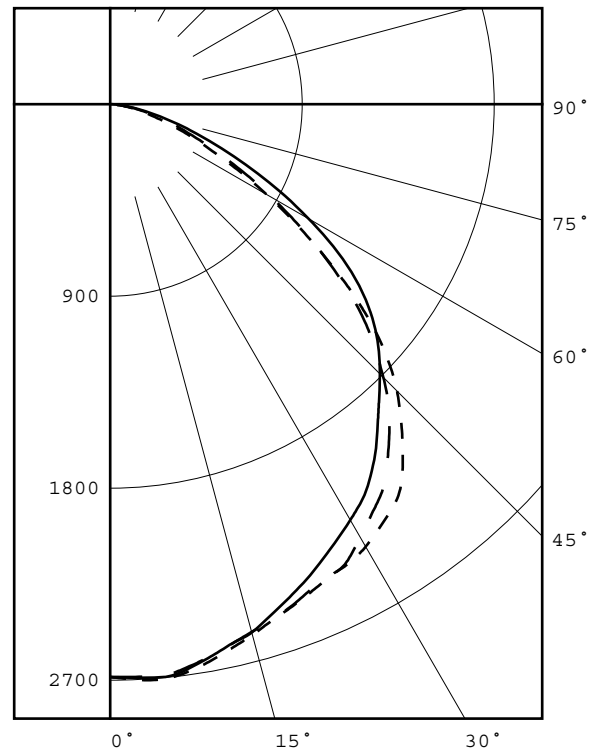
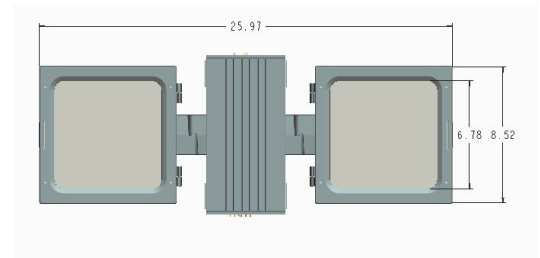
(SEE PAGE 2 FOR MORE INFORMATION)

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	2685	2685	2685	2685	2685
5	2707	2710	2697	2680	2690
15	2576	2571	2564	2554	2561
25	2441	2396	2355	2388	2442
35	2308	2229	2127	2154	2220
45	1902	1862	1788	1781	1811
55	1203	1272	1386	1249	1204
65	545	617	753	646	591
75	193	223	280	255	229
85	30	37	48	45	38
90	2	2	2	3	2
95	0	0	1	1	1
105	0	0	1	1	1
115	1	1	1	1	1
125	1	1	1	1	1
135	1	1	1	1	1
145	2	2	2	2	2
155	2	2	2	2	2
165	2	2	2	2	2
175	2	2	2	2	2
180	2	2	2	2	2

FLUX

255
724
1106
1367
1400
1137
651
265
54
1
1
1
1
1
1
1
1
1
0



LEGEND:

0-deg: - - - - -
 45-deg: _____
 90-deg: - - - - -

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	2085	29.9
0- 40	3452	49.6
0- 60	5988	86.0
0- 90	6958	99.9
90-120	3	0.0
90-130	4	0.1
90-150	6	0.1
90-180	7	0.1
0-180	6965	100.0

TOTAL INPUT WATTS = 78.9

EFFICACY = 88.3 Lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 1.3 1.3

Checked X.CAO
 Approved D.WANG-MUNSON

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ADDITIONAL INFORMATION

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.
TOTAL INPUT WATTS =78.923 AT 120.0 VAC.
LED DRIVER: RD-075-A1400
TEST PROCEDURE: IESNA LM-79-08
ACCREDITED LABORATORY CODE 201058-0

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PLANE : 0-DEG 90-DEG
BEAM ANGLE (50%) : 106.2 X 105.6 DEGREES
FIELD ANGLE (10%) : 144.3 X 147.3 DEGREES

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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 8.520 25.970

LUMINANCE DATA IN CANDELA/SQ METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	18836.	17707.	17935.
55	14687.	16921.	14699.
65	9031.	12477.	9793.
75	5222.	7576.	6196.
85	2410.	3857.	3053.

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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	2685	2685	2685	2685	2685
5.0	2707	2710	2697	2680	2690
10.0	2655	2652	2637	2625	2634
15.0	2576	2571	2564	2554	2561
20.0	2503	2478	2459	2474	2499
25.0	2441	2396	2355	2388	2442
30.0	2395	2315	2251	2294	2345
35.0	2308	2229	2127	2154	2220
40.0	2134	2068	1951	1974	2035
45.0	1902	1862	1788	1781	1811
50.0	1596	1604	1617	1540	1541
55.0	1203	1272	1386	1249	1204
60.0	847	921	1075	935	877
65.0	545	617	753	646	591
70.0	342	382	479	424	382
75.0	193	223	280	255	229
80.0	97	113	137	132	118
85.0	30	37	48	45	38
90.0	2	2	2	3	2
95.0	0	0	1	1	1
100.0	0	1	1	1	1
105.0	0	0	1	1	1
110.0	1	1	1	1	1
115.0	1	1	1	1	1
120.0	1	1	1	1	1
125.0	1	1	1	1	1
130.0	1	1	1	1	2
135.0	1	1	1	1	1
140.0	1	2	1	2	2
145.0	2	2	2	2	2
150.0	2	2	2	2	2
155.0	2	2	2	2	2
160.0	2	2	2	2	2
165.0	2	2	2	2	2
170.0	2	2	2	2	2
175.0	2	2	2	2	2
180.0	2	2	2	2	2

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ZONAL LUMEN SUMMARY

0- 5	64.
5- 10	191.
10- 15	309.
15- 20	415.
20- 25	510.
25- 30	595.
30- 35	663.
35- 40	703.
40- 45	711.
45- 50	688.
50- 55	623.
55- 60	514.
60- 65	386.
65- 70	265.
70- 75	169.
75- 80	96.
80- 85	43.
85- 90	10.
90- 95	1.
95-100	0.
100-105	0.
105-110	0.
110-115	1.
115-120	0.
120-125	0.
125-130	0.
130-135	0.
135-140	0.
140-145	1.
145-150	1.
150-155	1.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	64
5- 10	191
10- 15	309
15- 20	415
20- 25	510
25- 30	595
30- 35	663
35- 40	703
40- 45	711
45- 50	688
50- 55	623
55- 60	514
60- 65	386
65- 70	265
70- 75	169
75- 80	96
80- 85	43
85- 90	10
90- 95	1
95-100	0
100-105	0
105-110	0
110-115	1
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	1
145-150	1
150-155	1
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	255
0- 20	979
0- 30	2085
0- 40	3452
0- 50	4851
0- 60	5988
0- 70	6639
0- 80	6905
0- 90	6958
0-100	6959
0-110	6960
0-120	6961
0-130	6962
0-140	6963
0-150	6964
0-160	6965
0-170	6965
0-180	6965

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	57	51	76	65	57	51	63	56	50	61	54	50	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	37
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	28	38	33	28	27

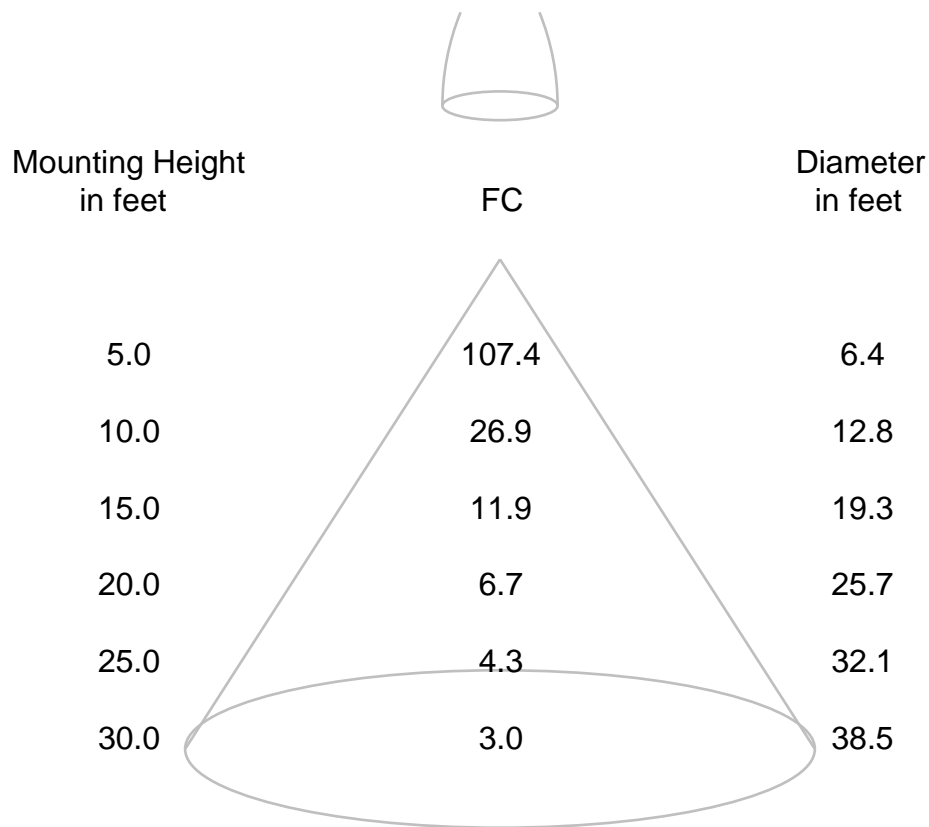
ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.

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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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DATE: 3/17/2015
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: FALCOR80W

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: ONE LUMINAIRE CONSISTING OF TWO OPPOSING LIGHT HEADS, EACH LIGHT HEAD CONSISTING OF: CAST FINNED METAL HOUSING, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, ONE CIRCUIT BOARD WITH 16 LEDS, CLEAR FLAT PRISMATIC GLASS LENS.

LAMP: THIRTY-TWO WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

DRIVER: RD-075-A1400

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:	CHROMA PROGRAMMABLE AC POWER SOURCE MODEL 61602	Calibration Due: N/A
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	3/9/16
	OCEAN OPTICS QE65PRO Spectroradiometer	3/10/16
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	3/10/16

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Total Radiant Flux*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRI_a, 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 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

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	6965 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3403
Chromaticity Ordinate y	0.3468
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2101
Chromaticity Ordinate v'	0.4816
Correlated Color Temp CCT (K)	5174
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	21824 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.659
Input Power (Watts)	78.9
Input Power Factor (%)	99.8
Input Current THD (%)	5.0
Input Voltage THD (%)	0.1
EFFICACY (Lumens/Watt)	
	88.3
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.295
Input Power (Watts)	77.2
Input Power Factor (%)	94.5
Input Current THD (%)	10.0
Input Voltage THD (%)	0.1
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	72
R1 Light greyish red	73
R2 Dark greyish yellow	74
R3 Strong yellowish green	75
R4 Moderate yellowish green	74
R5 Light bluish green	74
R6 Light blue	67
R7 Light violet	76
R8 Light reddish purple	62
R9 Strong red	-12
R10 Strong yellow	39
R11 Strong green	76
R12 Strong blue	50
R13 Light yellowish pink (skin)	71
R14 Moderate olive green (leaf)	85

*NOTE:

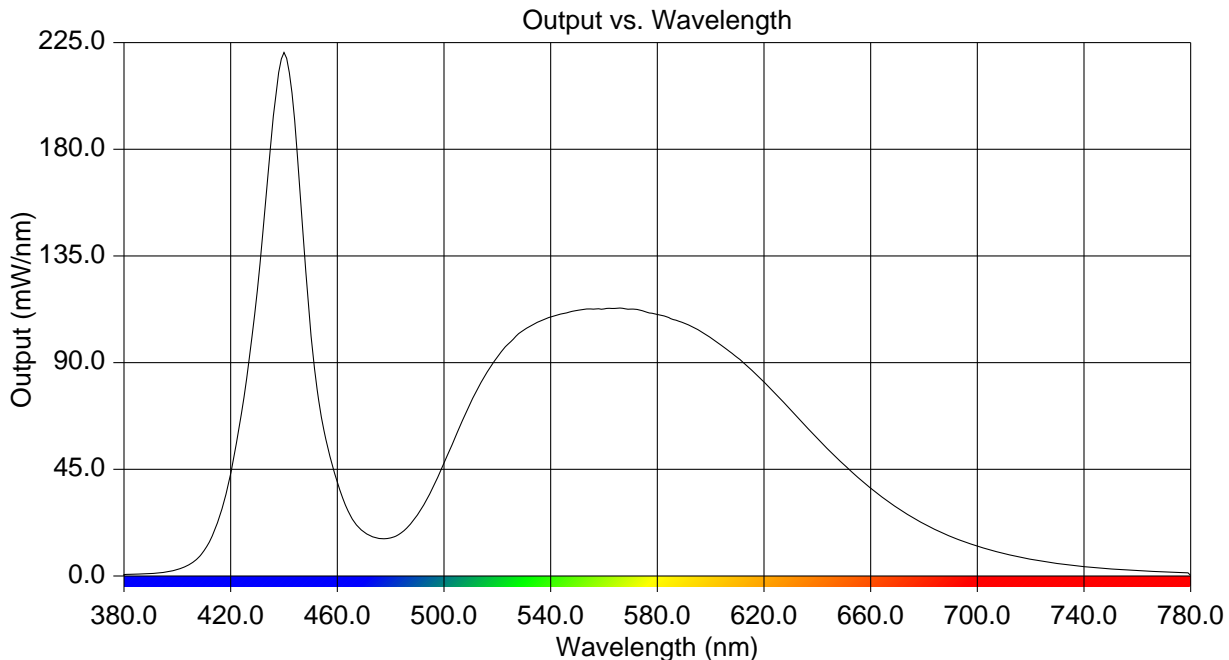
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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	0.595	515	83.688	650	46.950
385	0.779	520	92.369	655	41.832
390	1.028	525	98.808	660	37.063
395	1.583	530	103.717	665	32.683
400	2.708	535	106.909	670	28.715
405	5.163	540	109.235	675	25.171
410	10.671	545	110.666	680	21.954
415	22.254	550	111.974	685	19.155
420	43.117	555	112.660	690	16.667
425	75.384	560	112.664	695	14.517
430	120.399	565	112.961	700	12.602
435	181.817	570	112.593	705	10.908
440	220.849	575	111.677	710	9.455
445	177.651	580	110.301	715	8.173
450	103.446	585	108.577	720	7.075
455	61.296	590	106.728	725	6.110
460	39.552	595	104.086	730	5.283
465	25.301	600	100.460	735	4.579
470	18.458	605	96.573	740	3.972
475	16.014	610	92.151	745	3.446
480	16.060	615	87.266	750	3.000
485	19.117	620	81.896	755	2.610
490	25.703	625	76.075	760	2.262
495	35.449	630	70.044	765	1.972
500	47.605	635	63.997	770	1.715
505	60.635	640	58.129	775	1.506
510	73.052	645	52.373	780	0.227



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CIE Chromaticity Diagram

