

REPORT NUMBER: RAB00754

PAGE: 1 OF 9

ISSUE DATE: 03/17/15

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: FALCOR80YW

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.

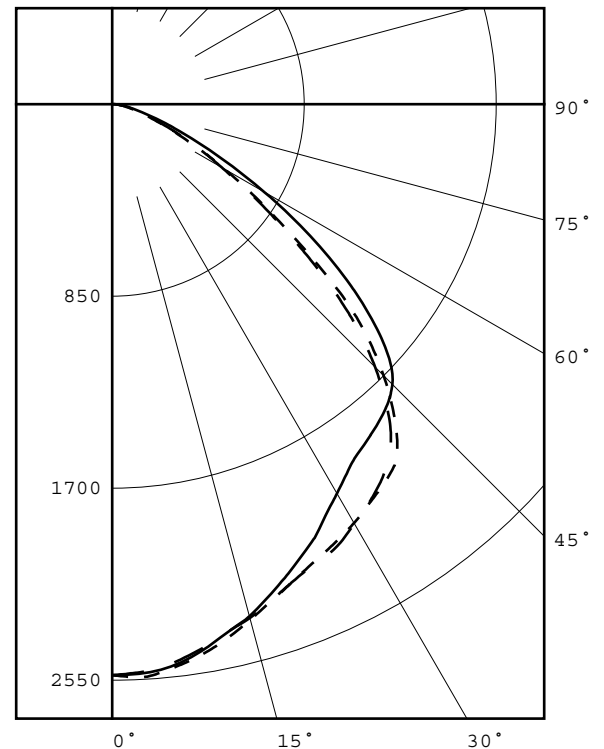
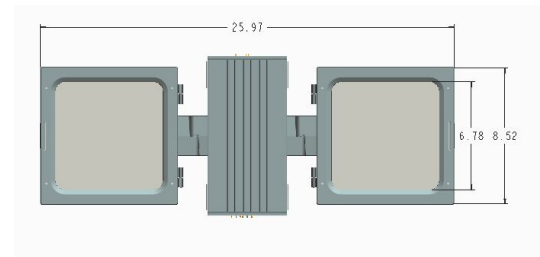
\*(SEE PAGE 2 FOR MORE INFORMATION)\*

### CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	2528	2528	2528	2528	2528
5	2524	2524	2512	2498	2503
15	2363	2357	2347	2338	2355
25	2200	2150	2119	2155	2217
35	2074	1968	1892	1972	2059
45	1700	1722	1754	1657	1646
55	898	990	1158	954	874
65	335	379	464	386	351
75	106	115	135	125	119
85	27	28	31	32	31
90	1	1	1	2	2
95	0	0	0	0	0
105	0	1	1	1	1
115	1	1	1	1	1
125	1	1	1	1	1
135	1	1	1	1	1
145	2	1	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

237
663
995
1239
1295
896
403
137
34
1
1
1
1
1
1
1
1
0



#### LEGEND:

0-deg: - - - - -  
 45-deg: \_\_\_\_\_  
 90-deg: — — — — —

### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	1896	32.1
0- 40	3134	53.1
0- 60	5325	90.2
0- 90	5900	99.9
90-120	2	0.0
90-130	3	0.1
90-150	5	0.1
90-180	7	0.1
0-180	5907	100.0

TOTAL INPUT WATTS = 82.1

EFFICACY = 71.9 Lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 1.3 1.3

Checked X.CAO  
 Approved D.WANG-MUNSON

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
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PAGE: 2 OF 9

ADDITIONAL INFORMATION

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.  
TOTAL INPUT WATTS = 82.053 AT 120.0 VAC.  
LED DRIVER: RD-075-A1400  
TEST PROCEDURE: IESNA LM-79-08  
ACCREDITED LABORATORY CODE 201058-0

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 3 OF 9

PLANE : 0-DEG 90-DEG  
BEAM ANGLE (50%) : 101.6 X 100.2 DEGREES  
FIELD ANGLE (10%) : 134.9 X 135.9 DEGREES

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 4 OF 9

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	16836.	17370.	16301.
55	10963.	14138.	10670.
65	5551.	7688.	5816.
75	2868.	3653.	3220.
85	2169.	2491.	2491.

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 5 OF 9

## CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	2528	2528	2528	2528	2528
5.0	2524	2524	2512	2498	2503
10.0	2457	2455	2439	2427	2432
15.0	2363	2357	2347	2338	2355
20.0	2270	2253	2232	2244	2271
25.0	2200	2150	2119	2155	2217
30.0	2141	2050	1990	2061	2144
35.0	2074	1968	1892	1972	2059
40.0	1964	1904	1836	1861	1920
45.0	1700	1722	1754	1657	1646
50.0	1346	1412	1517	1335	1279
55.0	898	990	1158	954	874
60.0	575	629	778	621	560
65.0	335	379	464	386	351
70.0	189	211	257	223	202
75.0	106	115	135	125	119
80.0	59	62	72	73	72
85.0	27	28	31	32	31
90.0	1	1	1	2	2
95.0	0	0	0	0	0
100.0	0	1	1	1	1
105.0	0	1	1	1	1
110.0	0	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	1
135.0	1	1	1	1	1
140.0	1	1	1	2	1
145.0	2	1	2	2	2
150.0	1	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

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
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PAGE: 6 OF 9

## ZONAL LUMEN SUMMARY

0- 5	60.
5- 10	177.
10- 15	284.
15- 20	379.
20- 25	462.
25- 30	534.
30- 35	594.
35- 40	645.
40- 45	666.
45- 50	629.
50- 55	519.
55- 60	378.
60- 65	250.
65- 70	153.
70- 75	88.
75- 80	50.
80- 85	27.
85- 90	8.
90- 95	0.
95-100	0.
100-105	0.
105-110	0.
110-115	0.
115-120	0.
120-125	0.
125-130	0.
130-135	0.
135-140	0.
140-145	1.
145-150	1.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.

REPORT NUMBER: RAB00754  
 ISSUE DATE: 03/17/15  
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 9

### 5-DEGREE ZONAL LUMEN SUMMARY

0- 5	60
5- 10	177
10- 15	284
15- 20	379
20- 25	462
25- 30	534
30- 35	594
35- 40	645
40- 45	666
45- 50	629
50- 55	519
55- 60	378
60- 65	250
65- 70	153
70- 75	88
75- 80	50
80- 85	27
85- 90	8
90- 95	0
95-100	0
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	1
145-150	1
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

### 10-DEGREE ZONAL LUMEN SUMMARY

0- 10	237
0- 20	900
0- 30	1896
0- 40	3134
0- 50	4429
0- 60	5325
0- 70	5729
0- 80	5866
0- 90	5900
0-100	5901
0-110	5902
0-120	5903
0-130	5904
0-140	5904
0-150	5906
0-160	5906
0-170	5907
0-180	5907

REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15

PAGE: 8 OF 9

PREPARED FOR: RAB LIGHTING INC.

## 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	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	84	77	71	91	83	76	71	80	74	70	77	72	68	75	71	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	61	53	47	72	60	53	47	59	52	47	57	51	46	56	50	46	44
7	69	56	48	42	67	55	47	42	54	47	41	52	46	41	51	45	41	39
8	64	51	43	37	62	50	43	37	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	43	37	33	31
10	56	43	36	31	55	43	35	31	42	35	30	41	35	30	40	34	30	29

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.

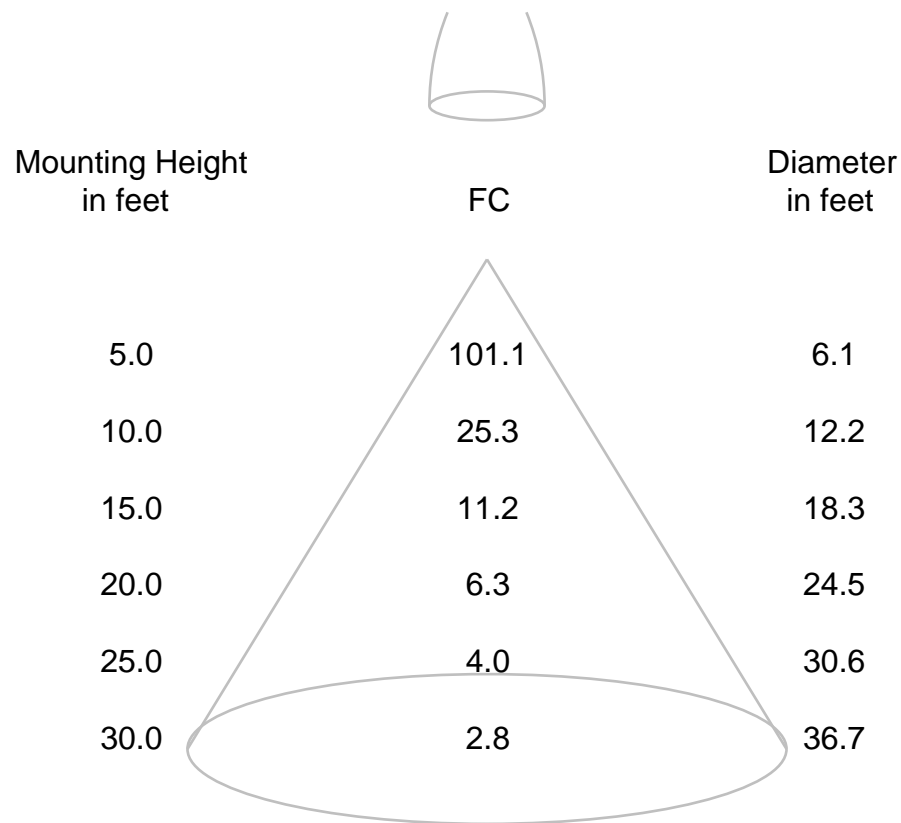


REPORT NUMBER: RAB00754  
ISSUE DATE: 03/17/15  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9

## 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.

REPORT NUMBER: RAB00756  
 DATE: 3/17/2015  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: FALCOR80YW

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<sub>a</sub>, 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	<u>X.CAO</u>
Approved	<u>D.WANG-MUNSON</u> Lighting Engineer

REPORT NUMBER: RAB00756  
 DATE: 3/17/2015  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: FALCOR80YW

Page 2 of 4

### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	5907 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4266
Chromaticity Ordinate y	0.3973
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2467
Chromaticity Ordinate v'	0.5171
Correlated Color Temp CCT (K)	3126
ANSI C78.377-2008 Duv	-0.001
Total Radiant Flux (milliWatts)	18135 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.686
Input Power (Watts)	82.1
Input Power Factor (%)	99.7
Input Current THD (%)	4.9
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	71.9
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.304
Input Power (Watts)	80.2
Input Power Factor (%)	95.2
Input Current THD (%)	9.5
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	81
R1 Light greyish red	80
R2 Dark greyish yellow	88
R3 Strong yellowish green	94
R4 Moderate yellowish green	80
R5 Light bluish green	79
R6 Light blue	84
R7 Light violet	84
R8 Light reddish purple	62
R9 Strong red	10
R10 Strong yellow	71
R11 Strong green	77
R12 Strong blue	63
R13 Light yellowish pink (skin)	81
R14 Moderate olive green (leaf)	96

### \*NOTE:

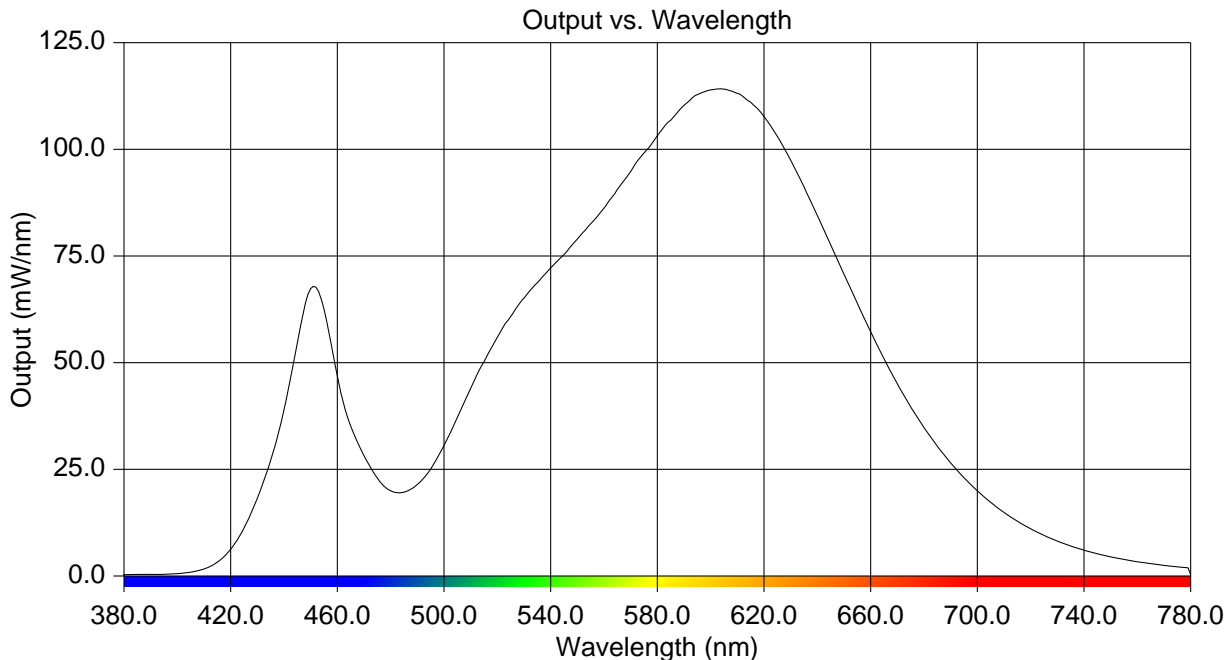
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: FALCOR80YW

Page 3 of 4

### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.291	515	50.200	650	70.790
385	0.336	520	55.933	655	63.919
390	0.353	525	60.769	660	57.274
395	0.413	530	65.128	665	50.864
400	0.566	535	68.727	670	44.994
405	0.886	540	72.192	675	39.682
410	1.635	545	75.310	680	34.735
415	3.249	550	78.933	685	30.373
420	6.215	555	82.555	690	26.462
425	11.203	560	86.203	695	23.027
430	18.156	565	90.529	700	19.998
435	27.144	570	94.848	705	17.262
440	38.966	575	99.148	710	14.903
445	54.728	580	103.120	715	12.833
450	67.381	585	106.799	720	11.047
455	62.550	590	110.295	725	9.498
460	46.831	595	112.834	730	8.175
465	35.143	600	113.893	735	7.048
470	28.155	605	114.141	740	6.036
475	22.955	610	113.101	745	5.227
480	19.968	615	111.066	750	4.477
485	19.668	620	107.676	755	3.852
490	21.423	625	103.064	760	3.334
495	25.055	630	97.455	765	2.887
500	30.571	635	91.211	770	2.490
505	37.164	640	84.533	775	2.142
510	43.905	645	77.680	780	0.326



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Page 4 of 4

## CIE Chromaticity Diagram

