

REPORT NUMBER: RAB01203

ISSUE DATE: 10/15/15

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: RDLED2R8-WYHC-TW (2" Round recessed wallwasher - >90 High CRI)

LUMINAIRE: FABRICATED METAL UPPER HOUSING AND BALLAST HOUSING, CAST WHITE PAINTED FINNED METAL HEAT SINK, 1 WHITE CIRCUIT BOARD WITH ONE LED, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, HOLOGRAPHIC FLAT PLASTIC LENS, CAST WHITE PAINTED METAL LOWER HOUSING.

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

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

TOTAL INPUT WATTS: 8.311 W AT 120.0 VOLTS

TEST PROCEDURE: IESNA LM-79-08

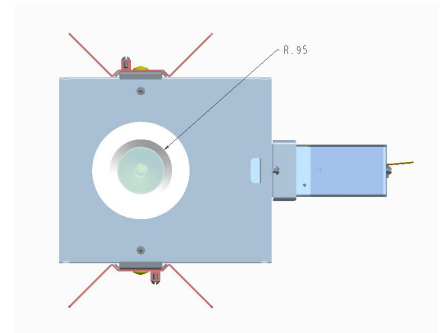
TEST DISTANCE: 28.25 FEET

PREPARED FOR: RAB LIGHTING INC.

LED DRIVER: RD-008-E1-A0200

ACCREDITED LABORATORY CODE 201085-0

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CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0
0	579	579	579	579	579
5	568	566	560	552	548
15	438	440	428	396	376
25	264	265	249	210	182
35	134	129	114	91	76
45	62	59	52	46	43
55	34	34	31	32	34
65	20	25	24	22	23
75	8	11	11	9	8
85	1	1	1	1	1
90	0	0	0	0	0

FLUX

52
116
109
70
41
30
23
11
1

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	276	61.1
0- 40	346	76.7
0- 60	417	92.4
0- 90	451	100.0
90-180	0	0.0
0-180	451	100.0

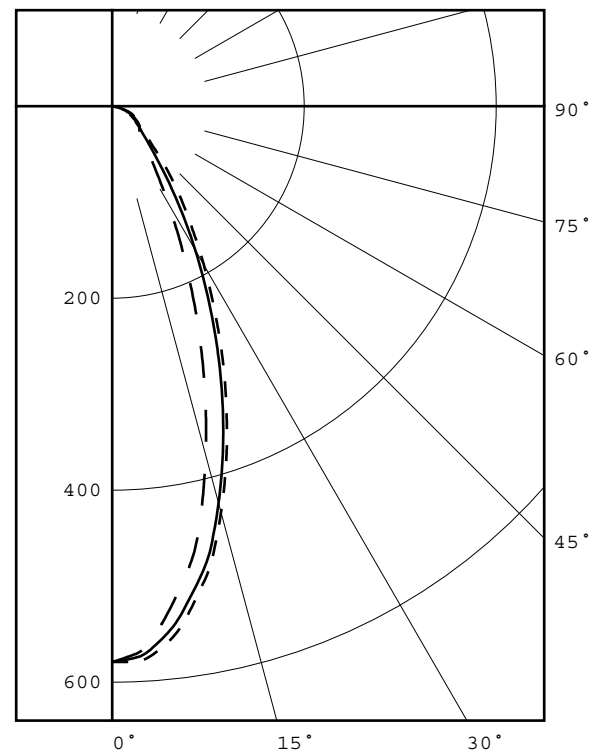
TOTAL INPUT WATTS = 8.3

EFFICACY = 54.3 Lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 0.7 0.7 0.6



LEGEND:

0-deg: - - - - -
90-deg: — — — — —
180-deg: - . - . - .

Checked

X.CAO

Approved

D.WANG-MUNSON

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PLANE : 0-DEG 90-DEG
BEAM ANGLE (50%) : 42.6 X 45.3 DEGREES
FIELD ANGLE (10%) : 85.2 X 87.0 DEGREES

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ZONAL LUMEN SUMMARY

0- 5	14.
5- 10	38.
10- 15	55.
15- 20	61.
20- 25	58.
25- 30	50.
30- 35	40.
35- 40	30.
40- 45	23.
45- 50	18.
50- 55	16.
55- 60	14.
60- 65	12.
65- 70	10.
70- 75	7.
75- 80	3.
80- 85	1.
85- 90	0.

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	14
5- 10	38
10- 15	55
15- 20	61
20- 25	58
25- 30	50
30- 35	40
35- 40	30
40- 45	23
45- 50	18
50- 55	16
55- 60	14
60- 65	12
65- 70	10
70- 75	7
75- 80	3
80- 85	1
85- 90	0
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	0
145-150	0
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	52
0- 20	167
0- 30	276
0- 40	346
0- 50	387
0- 60	417
0- 70	440
0- 80	450
0- 90	451
0-100	451
0-110	451
0-120	451
0-130	451
0-140	451
0-150	451
0-160	451
0-170	451
0-180	451

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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	112	109	106	103	110	107	104	102	103	100	98	99	97	96	95	94	93	91
2	105	100	95	91	103	98	93	90	95	91	88	91	88	86	89	86	84	82
3	99	92	86	81	97	90	85	80	87	83	79	85	81	78	83	79	77	75
4	93	85	78	73	91	83	77	73	81	76	72	79	75	71	77	73	70	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	66	72	68	65	63
6	83	73	67	62	82	73	66	62	71	65	61	69	65	61	68	64	60	59
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55
8	75	65	58	54	74	64	58	53	63	57	53	62	57	53	61	56	53	51
9	71	61	55	50	70	60	54	50	59	54	50	59	53	50	58	53	50	48
10	68	58	51	47	67	57	51	47	56	51	47	56	51	47	55	50	47	45

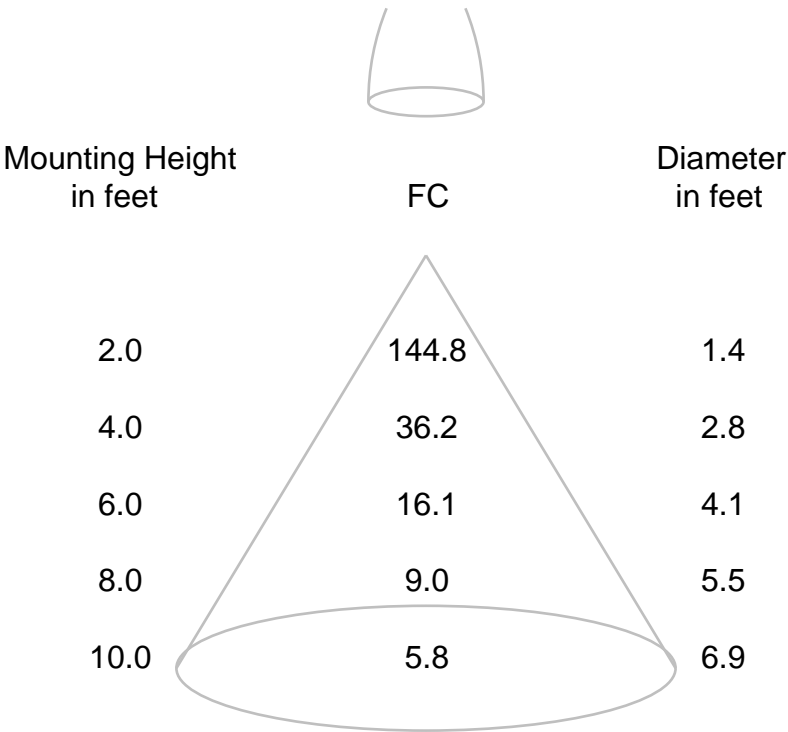
ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.

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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: RDLED2R8-WYHC-TW (2" Round recessed wallwasher - >90 High CRI)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: FABRICATED METAL UPPER HOUSING AND BALLAST HOUSING, CAST WHITE PAINTED FINNED METAL HEAT SINK, 1 WHITE CIRCUIT BOARD WITH ONE LED, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, HOLOGRAPHIC FLAT PLASTIC LENS, CAST WHITE PAINTED METAL LOWER HOUSING.

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

DRIVER: RD-008-E1-A0200

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120.0 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	8/21/16
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	8/21/16

OBJECT OF TEST: Measure the 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. Report Off-State Power.

PROCEDURE: The test sample was provided by the customer and had an unknown number of burn hours. The test sample was mounted inside the integrating sphere 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 120.0 VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. 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:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4388
Chromaticity Ordinate y	0.4057
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2511
Chromaticity Ordinate v'	0.5223
Correlated Color Temp CCT (K)	2982
Color Rendering Index (CRIa)	92
Color Rendering Index 1 (Light greyish red)	92
Color Rendering Index 2 (Dark greyish yellow)	95
Color Rendering Index 3 (Strong yellowish green)	97
Color Rendering Index 4 (Moderate yellowish green)	92
Color Rendering Index 5 (Light bluish green)	91
Color Rendering Index 6 (Light blue)	94
Color Rendering Index 7 (Light violet)	92
Color Rendering Index 8 (Light reddish purple)	82
Color Rendering Index 9 (Strong red)	58
Color Rendering Index 10 (Strong yellow)	88
Color Rendering Index 11 (Strong green)	92
Color Rendering Index 12 (Strong blue)	79
Color Rendering Index 13 (Light yellowish pink (skin))	93
Color Rendering Index 14 (Moderate olive green (leaf))	98
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	1557 *
ELECTRICAL FOR SPECTRORADIOMETRIC TEST	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.071
Input Power (Watts)	8.31
Input Power Factor (%)	97.5
Input Current THD (%)	0.2
Input Voltage THD (%)	19.7
Off-State Power (Watts)	0.0

*NOTE:

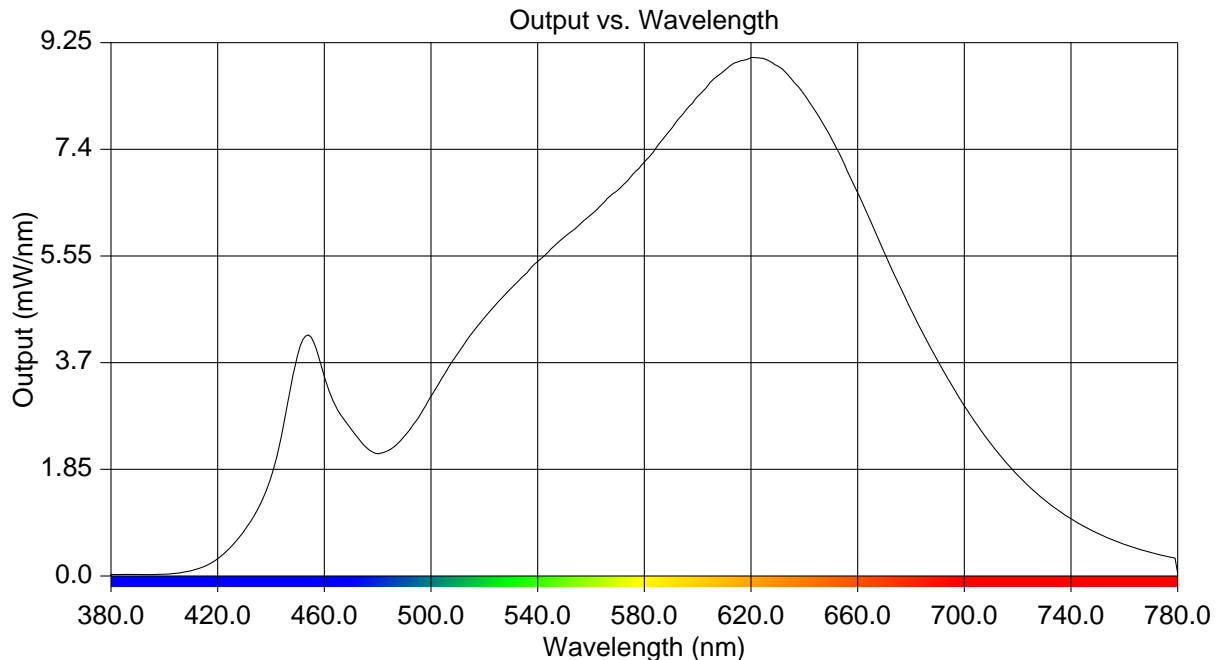
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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	0.024	515	4.190	650	7.604
385	0.025	520	4.470	655	7.145
390	0.023	525	4.746	660	6.655
395	0.027	530	4.988	665	6.137
400	0.034	535	5.216	670	5.614
405	0.050	540	5.457	675	5.104
410	0.088	545	5.673	680	4.611
415	0.164	550	5.880	685	4.162
420	0.299	555	6.062	690	3.735
425	0.508	560	6.264	695	3.333
430	0.786	565	6.485	700	2.948
435	1.156	570	6.686	705	2.606
440	1.713	575	6.928	710	2.291
445	2.683	580	7.184	715	2.002
450	3.843	585	7.464	720	1.749
455	4.146	590	7.750	725	1.524
460	3.461	595	8.042	730	1.321
465	2.878	600	8.319	735	1.141
470	2.551	605	8.575	740	0.991
475	2.261	610	8.764	745	0.856
480	2.119	615	8.914	750	0.741
485	2.203	620	8.992	755	0.638
490	2.425	625	8.972	760	0.550
495	2.724	630	8.843	765	0.474
500	3.119	635	8.630	770	0.407
505	3.496	640	8.353	775	0.350
510	3.854	645	8.003	780	0.053



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CIE Chromaticity Diagram

