

REPORT NUMBER: PRORATED FROM RAB04538

PAGE: 1 OF 6

ISSUE DATE: 08/20/18

PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

CATALOG NUMBER: CDL4W-40W80D927-ODLENS

LUMINAIRE: EXTRUDED BLACK PAINTED METAL HOUSING, CAST FINNED METAL HEAT SINK, 2 WHITE CIRCUIT BOARD WITH 2 LED, MOLDED PLASTIC UPPER REFLECTOR, HOLOGRAPHIC PLASTIC LENS OVER UPPER APERTURE OF LOWER REFLECTOR, ALUMINUM TRIM DOOR WITH GLASS LENS.

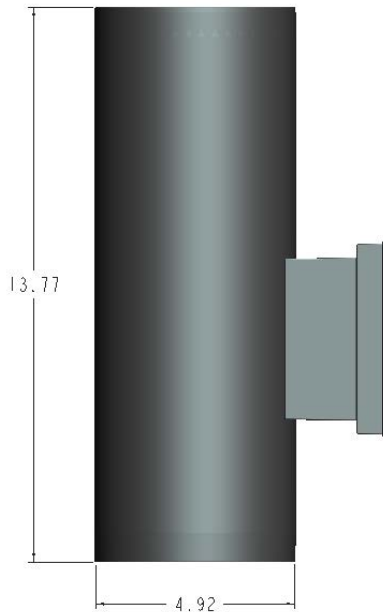
LAMPS: TWO WHITE LIGHT EMITTING DIODES (LEDS).

NOTE: THIS REPORT WAS PRORATED FROM RAB04538 WHICH WAS CDL4W-40W80D927-ODLENS WITH UPPER OPENING COVERED. THE DATA WAS DOUBLED/MIRRORED TO REPRESENT A WALL DIRECT/INDIRECT LIGHT. ACTUAL PERFORMANCE MAY VARY.

WATT: TOTAL INPUT WATTS = 34.8 W AT 120.0 VAC.

LED DRIVER: LED DRIVER: RDD-40W-042SE-A0900

PROCEDURE: TEST PROCEDURE: IESNA LM-79-08



Checked X.CAO

Approved D.WANG-MUNSON

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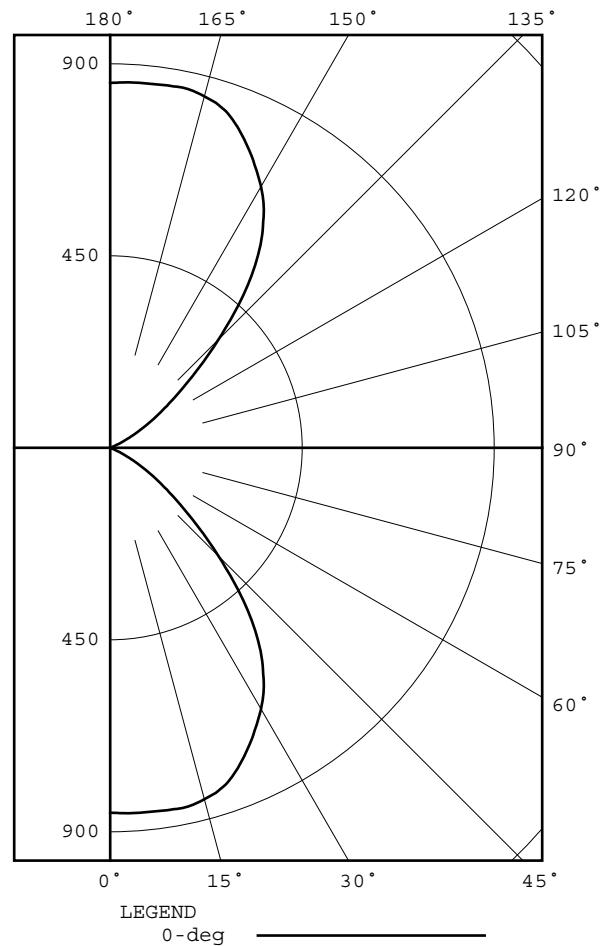
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

CATALOG NUMBER: CDL4W-40W80D927-ODLENS

DEG	CANDELA	LUMENS
0	855	
5	858	82
15	853	240
25	770	354
35	623	385
45	359	278
55	141	129
65	24	29
75	2	3
85	1	1
90	0	
95	1	1
105	2	3
115	24	29
125	141	129
135	359	278
145	623	385
155	770	354
165	853	240
175	858	82
180	855	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	677	22.5
0- 40	1062	35.4
0- 60	1469	48.9
0- 90	1501	50.0
90-120	32	1.1
90-130	161	5.4
90-150	824	27.5
90-180	1501	50.0
0-180	3002	100.0

EFFICACY = 86.3 lm/W
 CIE TYPE - GENERAL DIFFUSE
 SPACING CRITERION: 1.21





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CANDELA DISTRIBUTION

0.0	855	60.0	73	120.0	73	180.0	855
1.0	856	61.0	62	121.0	86		
2.0	857	62.0	51	122.0	99		
3.0	858	63.0	41	123.0	113		
4.0	858	64.0	32	124.0	127		
5.0	858	65.0	24	125.0	141		
6.0	858	66.0	18	126.0	157		
7.0	859	67.0	12	127.0	174		
8.0	859	68.0	8	128.0	192		
9.0	860	69.0	6	129.0	212		
10.0	860	70.0	5	130.0	232		
11.0	861	71.0	4	131.0	254		
12.0	861	72.0	4	132.0	279		
13.0	859	73.0	3	133.0	305		
14.0	856	74.0	3	134.0	333		
15.0	853	75.0	2	135.0	359		
16.0	849	76.0	2	136.0	388		
17.0	846	77.0	2	137.0	418		
18.0	840	78.0	2	138.0	448		
19.0	834	79.0	2	139.0	477		
20.0	825	80.0	2	140.0	505		
21.0	816	81.0	1	141.0	532		
22.0	805	82.0	1	142.0	557		
23.0	794	83.0	1	143.0	581		
24.0	782	84.0	1	144.0	603		
25.0	770	85.0	1	145.0	623		
26.0	758	86.0	0	146.0	642		
27.0	745	87.0	0	147.0	661		
28.0	733	88.0	0	148.0	678		
29.0	719	89.0	0	149.0	693		
30.0	707	90.0	0	150.0	707		
31.0	693	91.0	0	151.0	719		
32.0	678	92.0	0	152.0	733		
33.0	661	93.0	0	153.0	745		
34.0	642	94.0	0	154.0	758		
35.0	623	95.0	1	155.0	770		
36.0	603	96.0	1	156.0	782		
37.0	581	97.0	1	157.0	794		
38.0	557	98.0	1	158.0	805		
39.0	532	99.0	1	159.0	816		
40.0	505	100.0	2	160.0	825		
41.0	477	101.0	2	161.0	834		
42.0	448	102.0	2	162.0	840		
43.0	418	103.0	2	163.0	846		
44.0	388	104.0	2	164.0	849		
45.0	359	105.0	2	165.0	853		
46.0	333	106.0	3	166.0	856		
47.0	305	107.0	3	167.0	859		
48.0	279	108.0	4	168.0	861		
49.0	254	109.0	4	169.0	861		
50.0	232	110.0	5	170.0	860		
51.0	212	111.0	6	171.0	860		
52.0	192	112.0	8	172.0	859		
53.0	174	113.0	12	173.0	859		
54.0	157	114.0	18	174.0	858		
55.0	141	115.0	24	175.0	858		
56.0	127	116.0	32	176.0	858		
57.0	113	117.0	41	177.0	858		
58.0	99	118.0	51	178.0	857		
59.0	86	119.0	62	179.0	856		

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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	21
5- 10	61
10- 15	102
15- 20	139
20- 25	167
25- 30	187
30- 35	196
35- 40	189
40- 45	160
45- 50	118
50- 55	80
55- 60	49
60- 65	23
65- 70	6
70- 75	2
75- 80	1
80- 85	1
85- 90	0
90- 95	0
95-100	1
100-105	1
105-110	2
110-115	6
115-120	23
120-125	49
125-130	80
130-135	118
135-140	160
140-145	189
145-150	196
150-155	187
155-160	167
160-165	139
165-170	102
170-175	61
175-180	21

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	82
0- 20	322
0- 30	677
0- 40	1062
0- 50	1340
0- 60	1469
0- 70	1498
0- 80	1500
0- 90	1501
0-100	1502
0-110	1505
0-120	1533
0-130	1662
0-140	1940
0-150	2326
0-160	2680
0-170	2920
0-180	3002

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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	107	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	99	96	92	90	90	92	89	86	83	75	74	72	63	62	61	52	51	51	45
2	92	86	80	76	76	85	79	75	71	68	65	62	58	55	53	48	46	45	41
3	85	77	70	65	65	78	71	66	61	61	57	54	52	49	47	44	42	40	36
4	78	69	62	56	56	73	64	58	53	56	51	47	48	44	42	40	38	36	33
5	73	62	55	49	49	67	58	52	47	51	46	42	44	40	37	37	34	32	29
6	67	56	49	44	44	62	53	46	42	46	41	37	40	36	33	34	31	29	26
7	63	51	44	39	39	58	48	42	37	42	37	33	37	33	30	31	29	27	24
8	58	47	40	35	35	54	44	38	33	39	34	30	34	30	27	29	26	24	22
9	54	43	36	31	31	51	41	34	30	36	31	27	31	27	25	27	24	22	20
10	51	40	33	28	28	47	37	31	27	33	28	25	29	25	23	25	22	20	18

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 TEST SAMPLE.

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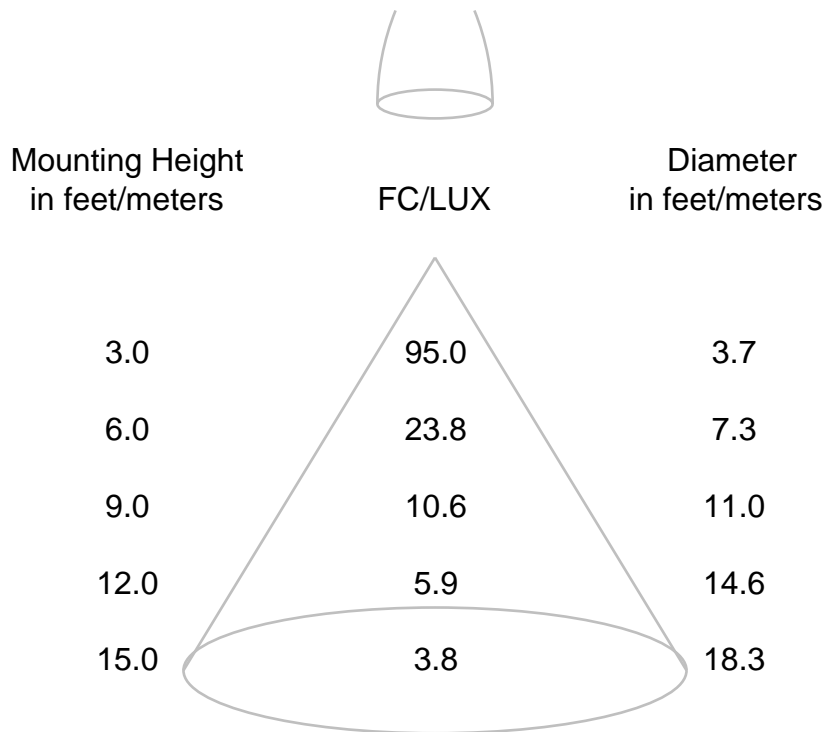
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CONE OF LIGHT DIAGRAM

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



If distances are feet, results are footcandles.
If distances are meters, results are lux.

REPORT NUMBER: RAB04599
DATE: 8/30/2018
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING
CATALOG NUMBER: CDL4W-40W80D927-ODLENS

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: EXTRUDED BLACK PAINTED METAL HOUSING, CAST FINNED METAL HEAT SINK, 2 WHITE CIRCUIT BOARD WITH 2 LED, MOLDED PLASTIC UPPER REFLECTOR, HOLOGRAPHIC PLASTIC LENS OVER UPPER APERTURE OF LOWER REFLECTOR, ALUMINUM TRIM DOOR WITH GLASS LENS.

LAMP: TWO WHITE LIGHT EMITTING DIODES (LEDS).

DRIVER: RDD-40W-042SE-A0900

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: GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100 N/A
CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202 3/08/19
OCEAN OPTICS QE65PRO Spectroradiometer 08/22/19
RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry 08/22/19

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 (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

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	3002 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4599
Chromaticity Ordinate y	0.4153
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2604
Chromaticity Ordinate v'	0.5291
Correlated Color Temp CCT (K)	2735
ANSI C78.377-2008 Duv	0.002
Total Radiant Flux (milliWatts)	10381 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.294
Input Power (Watts)	34.8
Input Power Factor (%)	98.4
Input Current THD (%)	12.5
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
86.3	
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.139
Input Power (Watts)	34.5
Input Power Factor (%)	89.9
Input Current THD (%)	19.7
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
0.0	

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	91
R1 Light greyish red	90
R2 Dark greyish yellow	95
R3 Strong yellowish green	99
R4 Moderate yellowish green	90
R5 Light bluish green	90
R6 Light blue	95
R7 Light violet	90
R8 Light reddish purple	77
R9 Strong red	51
R10 Strong yellow	88
R11 Strong green	90
R12 Strong blue	80
R13 Light yellowish pink (skin)	91
R14 Moderate olive green (leaf)	99

*NOTE:

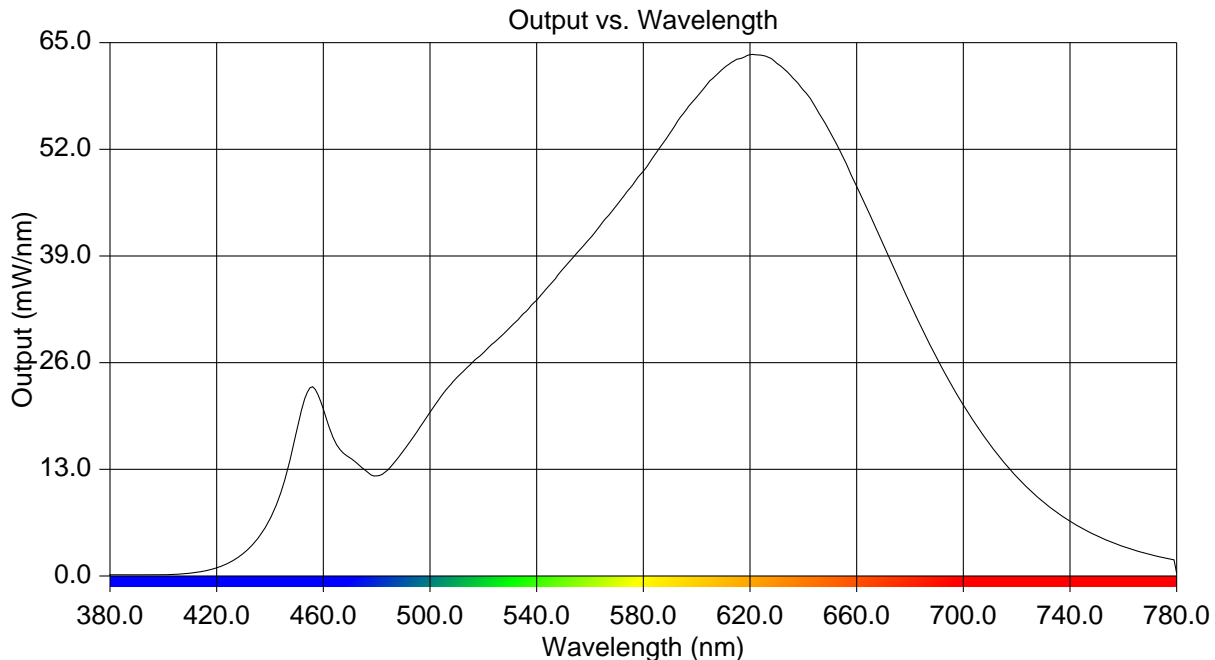
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.143	515	25.722	650	54.107
385	0.140	520	27.196	655	50.978
390	0.135	525	28.720	660	47.535
395	0.147	530	30.265	665	43.967
400	0.156	535	31.964	670	40.439
405	0.215	540	33.607	675	36.737
410	0.335	545	35.513	680	33.233
415	0.578	550	37.483	685	29.822
420	0.991	555	39.323	690	26.560
425	1.675	560	41.167	695	23.604
430	2.771	565	43.237	700	20.815
435	4.401	570	45.209	705	18.292
440	6.991	575	47.257	710	16.008
445	11.096	580	49.327	715	13.947
450	17.672	585	51.655	720	12.099
455	22.941	590	53.972	725	10.460
460	20.351	595	56.358	730	9.009
465	15.984	600	58.370	735	7.764
470	14.399	605	60.375	740	6.656
475	13.079	610	61.852	745	5.703
480	12.199	615	62.972	750	4.927
485	13.210	620	63.537	755	4.207
490	15.249	625	63.456	760	3.590
495	17.521	630	62.500	765	3.059
500	19.958	635	61.113	770	2.612
505	22.284	640	59.205	775	2.239
510	24.165	645	56.893	780	0.334



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CIE Chromaticity Diagram

