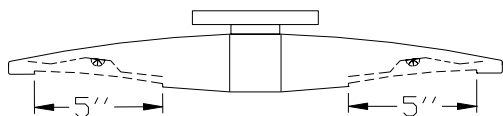
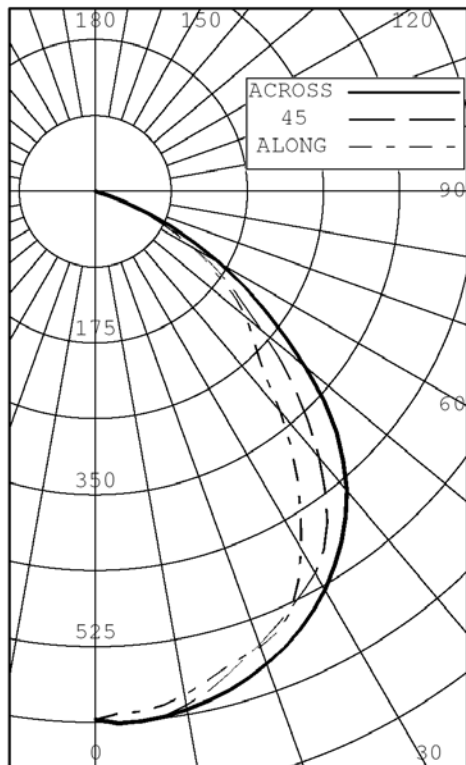




INDEPENDENT TEST LABORATORY REPORT No. 27578

RAB LIGHTING - LED CEILING LUMINAIRE, CAT# CLED/PLED2X13Y
WITH SPECULAR REFLECTOR AND CLEAR FLAT GLASS LENSES
TWO LED ARRAYS. LUMINAIRE OUTPUT = 1281 LMS
LUMINAIRE OPERATING AT 120 VAC AND 30.7 WATTS



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS

ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	609	609	609	609	609	
5	602	602	614	613	614	59
10	590	594	602	604	607	
15	570	573	579	589	596	164
20	558	547	555	570	579	
25	533	533	531	545	558	247
30	474	493	507	513	529	
35	405	425	465	477	493	282
40	330	344	400	434	450	
45	264	274	326	379	392	252
50	226	230	248	312	316	
55	176	182	190	231	237	180
60	127	128	131	150	165	
65	83	81	75	80	96	83
70	44	39	36	34	36	
75	12	14	13	9	1	15
80	3	4	4	0	0	
85	1	1	0	0	0	1
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	469	36.63
0-40	751	58.62
0-60	1183	92.33
0-90	1281	100.00
40-90	530	41.38
60-90	98	7.67
90-180	0	0.00
0-180	1281	100.00

EFFICACY (LUMENS PER WATT): 41.7

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 10.000 INS
WIDTH: 3.750 INS

LUMINANCE SUMMARY CD./SQ.M.

ANGLE	ALONG	45	ACROSS
45	15413	19155	23002
55	12700	13720	17143
65	8075	7322	9437
75	1980	2133	96
85	592	40	0

S/MH: 1.3
SC (ALONG): 1.2, SC (ACROSS): 1.3
CERTIFIED BY:

James E. Walker III

DATE:
AUG 23, 2010

PREPARED FOR:
RAB LIGHTING
NORTHVALE, NJ

TESTED IN ACCORDANCE WITH IES PROCEDURES.

LIGHTING SCIENCES, INC.
7826 E. EVANS RD.
SCOTTSDALE, AZ, USA 85260

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INTENSITY (CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	609	609	609	609	609	609	
2.5	603	602	616	614	614	610	
5.0	602	602	614	613	614	609	59
7.5	598	600	610	610	611	606	
10.0	590	594	602	604	607	600	
12.5	580	585	592	598	602	591	
15.0	570	573	579	589	596	581	164
17.5	563	559	567	580	588	570	
20.0	558	547	555	570	579	560	
22.5	550	540	543	559	569	550	
25.0	533	533	531	545	558	539	247
27.5	505	517	519	529	544	522	
30.0	474	493	507	513	529	504	
32.5	439	461	489	495	512	480	
35.0	405	425	465	477	493	454	282
37.5	369	384	434	457	473	424	
40.0	330	344	400	434	450	392	
42.5	290	306	364	407	422	358	
45.0	264	274	326	379	392	327	252
47.5	245	252	289	347	357	297	
50.0	226	230	248	312	316	265	
52.5	204	207	216	273	275	234	
55.0	176	182	190	231	237	202	180
57.5	152	153	163	190	202	171	
60.0	127	128	131	150	165	139	
62.5	105	105	101	114	129	109	
65.0	83	81	75	80	96	81	83
67.5	63	59	55	54	65	58	
70.0	44	39	36	34	36	37	
72.5	25	24	22	17	16	21	
75.0	12	14	13	9	1	11	15
77.5	8	10	9	1	0	6	
80.0	3	4	4	0	0	3	
82.5	2	2	0	0	0	1	
85.0	1	1	0	0	0	0	1
87.5	0	0	0	0	0	0	
90.0	0	0	0	0	0	0	

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AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	22.5	45	67.5	ACROSS
0	25188 (7351)	25188 (7351)	25188 (7351)	25188 (7351)	25188 (7351)
30	22621 (6602)	23592 (6885)	24250 (7077)	24538 (7161)	25266 (7374)
40	17778 (5189)	18631 (5437)	21585 (6300)	23472 (6850)	24282 (7087)
45	15413 (4498)	16060 (4687)	19155 (5590)	22195 (6477)	23002 (6713)
50	14549 (4246)	14827 (4327)	15964 (4659)	20127 (5874)	20299 (5924)
55	12700 (3706)	13124 (3830)	13720 (4004)	16675 (4866)	17143 (5003)
60	10512 (3068)	10591 (3091)	10843 (3164)	12413 (3622)	13672 (3990)
65	8075 (2356)	7910 (2308)	7322 (2137)	7873 (2297)	9437 (2754)
70	5291 (1544)	4766 (1391)	4377 (1277)	4155 (1212)	4312 (1258)
75	1980 (577)	2187 (638)	2133 (622)	1414 (412)	96 (28)
80	768 (224)	946 (276)	1018 (297)	41 (11)	40 (11)
85	592 (172)	491 (143)	40 (11)	0 (0)	0 (0)

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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																									
0	1.221.221.221.22	1.191.191.191.19	1.161.161.161.16	1.111.111.11	1.061.061.06	1.021.021.02	1.00																		
1	1.141.101.071.04	1.121.081.051.02	1.091.061.031.01	1.021.000.98	0.980.960.95	0.950.930.92	0.90																		
2	1.061.000.950.89	1.040.980.930.88	1.020.960.910.88	0.930.890.86	0.900.870.84	0.870.840.82	0.80																		
3	0.990.900.830.78	0.970.880.820.77	0.950.870.810.77	0.840.790.75	0.820.780.74	0.800.760.73	0.71																		
4	0.920.810.730.68	0.900.800.730.67	0.880.790.720.67	0.770.710.66	0.740.690.65	0.720.680.65	0.63																		
5	0.850.730.650.59	0.830.720.640.59	0.810.710.640.58	0.690.630.58	0.670.620.57	0.650.610.57	0.55																		
6	0.790.660.580.52	0.770.650.580.52	0.750.640.570.52	0.630.560.51	0.610.550.51	0.600.540.50	0.49																		
7	0.730.600.520.47	0.710.590.510.46	0.700.580.510.46	0.570.500.45	0.550.490.45	0.540.490.45	0.43																		
8	0.670.540.460.40	0.660.530.460.40	0.640.520.450.40	0.510.450.40	0.500.440.40	0.490.430.39	0.38																		
9	0.620.490.410.35	0.610.480.400.35	0.590.480.400.35	0.460.400.35	0.450.390.35	0.440.390.34	0.33																		
10	0.570.440.360.31	0.560.440.360.31	0.550.430.360.31	0.420.360.31	0.410.350.31	0.410.350.31	0.29																		

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS
BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.
LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD
THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

LUMINAIRE INPUT WATTS 30.7

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
LUMINOUS OPENING OF LUMINAIRE.

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ELECTRICAL MEASUREMENTS

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.259	AMPS
INPUT POWER:	30.7	WATTS
POWER FACTOR:	98.8	PERCENT
TOTAL HARMONIC DISTORTION:	12.16	PERCENT
OFF STATE POWER:	0.00	WATTS

LIGHT OUTPUT

LUMENS:	1281	lm
EFFICACY:	41.7	lm/W

SPECTRAL MEASUREMENTS

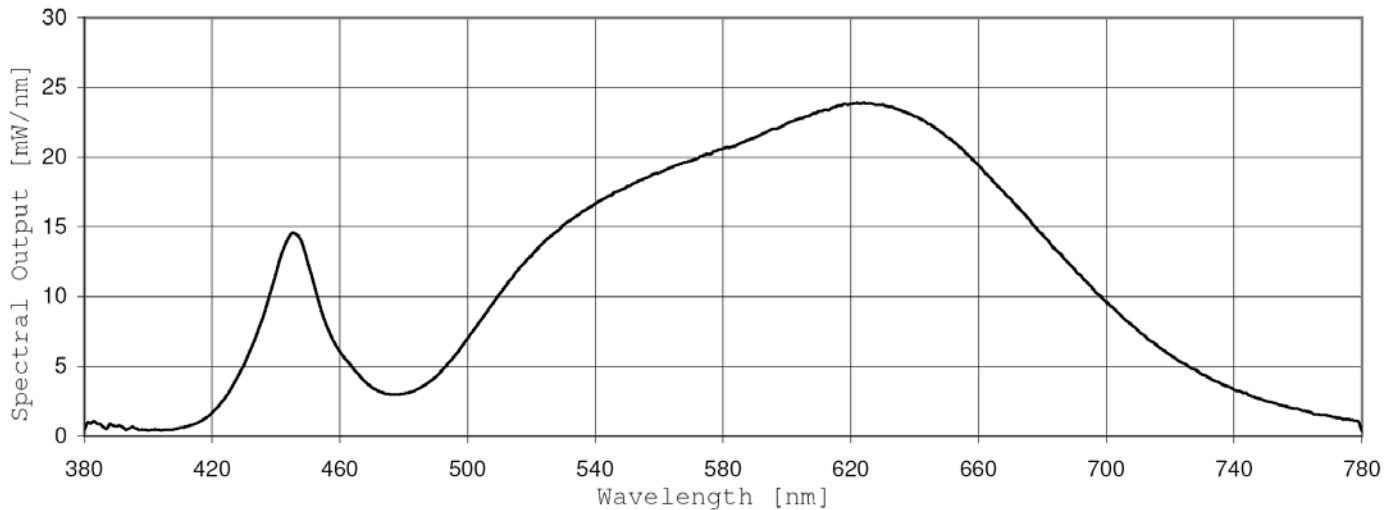
X:	0.4326	
y:	0.4036	
u/u':	0.2480	
v:	0.3470	
v':	0.5206	
Duv:	0.0003	
CRI (R _a):	85.9	
CRI (R _g):	51.8	
CCT:	3069	K
RADIANT FLUX:	4482	mW

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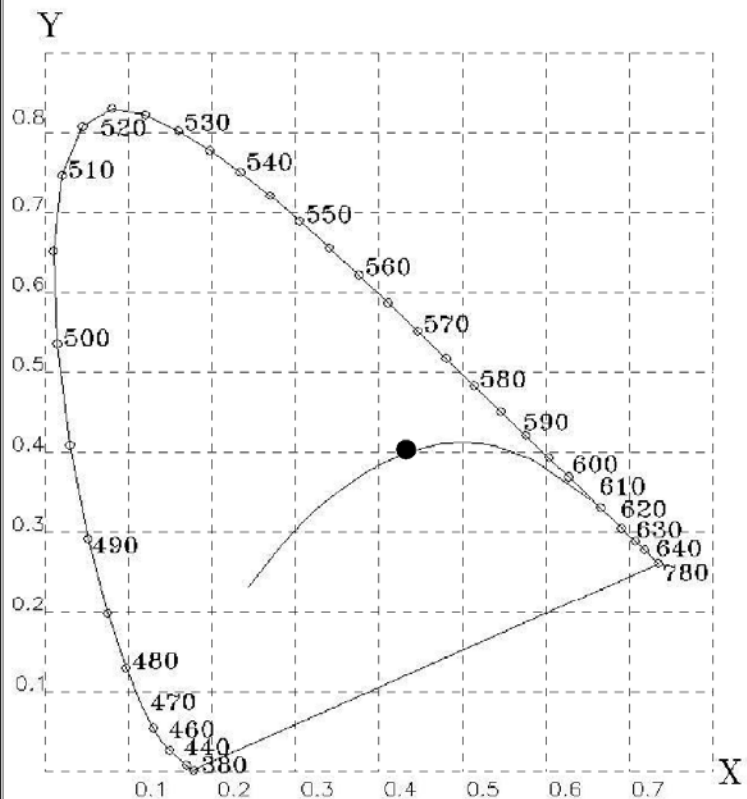
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.45714	590	21.40070
390	0.70776	600	22.41630
400	0.37992	610	23.30466
410	0.59053	620	23.82208
420	1.68668	630	23.78822
430	5.10519	640	22.90781
440	11.66439	650	21.43225
450	12.39088	660	19.41645
460	6.05922	670	17.03919
470	3.50034	680	14.45645
480	3.04629	690	11.97812
490	4.24787	700	9.61549
500	7.01197	710	7.55351
510	10.17395	720	5.82168
520	12.92985	730	4.40794
530	15.14395	740	3.31025
540	16.66645	750	2.50834
550	17.91857	760	1.94475
560	18.88004	770	1.42912
570	19.72787	780	0.36850
580	20.59751		

CIE 1931 Chromaticity Diagram



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SIDE VIEW



LUMINOUS OPENING



All testing was conducted in accordance with LM-79-08,

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products as published by the Illuminating Engineering Society of North America (IESNA).

The condition of the item tested was new. Stabilization time before testing exceeded 16 hours.

The test results (luminous distribution and flux) were obtained by using a Lighting Sciences series 6000 Type C Moving Mirror Goniophotometer

- The photometric reference standard used is a set of three incandescent luminous intensity standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.

The test results (colorimetric and luminous flux) were obtained by using a Lighting Sciences model 4000 Integrating Sphere of either 1 or 2 meters diameter, having an internal reflectance exceeding 0.80. 4π geometry was used. Correction factors were applied for spectral mismatch and self-absorption. The spectroradiometer employed was a LSC model 500E having a bandwidth of .84.

- The photometric reference standard used is a set of three incandescent luminous flux standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.
- The colorimetric reference standard used is an incandescent spectral standard lamp calibrated and traceable to the U.S. National Institute of Standards and Technology.

Power measurements were obtained with a Yokogawa WT210 power analyzer.

Ambient temperature during testing was $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured using an Omega model DP460.

Calibration certificates are on file at the laboratories of Lighting Sciences Inc.