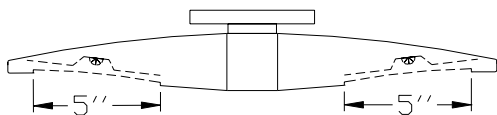
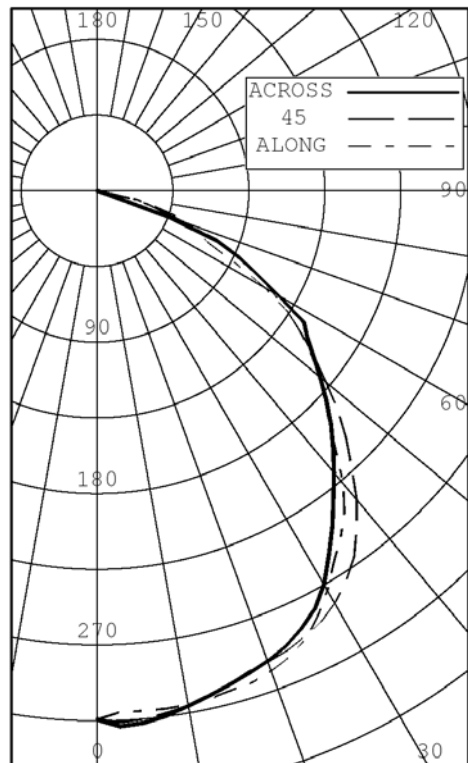




INDEPENDENT TEST LABORATORY REPORT No. 27577

RAB LIGHTING - LED CEILING LUMINAIRE, CAT# CLED/PLED2X10Y
WITH SPECULAR REFLECTOR AND CLEAR FLAT GLASS LENSES
TWO LED ARRAYS. LUMINAIRE OUTPUT = 810 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 26.2 WATTS



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS

ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	314	314	314	314	314	
5	310	309	315	313	318	30
10	310	309	311	307	311	
15	308	306	303	300	304	86
20	303	299	298	294	297	
25	293	291	292	288	287	133
30	273	279	282	275	269	
35	251	256	265	252	243	159
40	227	230	239	227	218	
45	194	204	209	203	196	156
50	172	176	177	178	172	
55	147	148	148	153	152	133
60	114	119	120	126	124	
65	73	76	91	91	92	86
70	58	55	56	54	45	
75	35	35	31	5	2	27
80	4	9	3	1	0	
85	0	0	0	0	0	1
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	249	30.77
0-40	408	50.37
0-60	698	86.07
0-90	810	100.00
40-90	402	49.63
60-90	113	13.93
90-180	0	0.00
0-180	810	100.00

EFFICACY (LUMENS PER WATT): 30.9

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 10.000 INS
WIDTH: 3.750 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3
SC: 1.3

CERTIFIED BY:

James E. Walker III

DATE:
AUG 23, 2010

PREPARED FOR:

RAB LIGHTING
NORTHVALE, NJ

ANGLE	ALONG	45	ACROSS
45	11361	12243	11496
55	10625	10681	11002
65	7094	8953	9048
75	5568	4962	317
85	142	40	40

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	314	314	314	314	314	314	30
2.5	310	309	316	315	319	314	
5.0	310	309	315	313	318	313	
7.5	311	309	313	310	315	311	
10.0	310	309	311	307	311	309	86
12.5	309	308	307	304	308	307	
15.0	308	306	303	300	304	304	
17.5	306	303	300	297	300	301	
20.0	303	299	298	294	297	298	133
22.5	299	295	295	291	293	294	
25.0	293	291	292	288	287	290	
27.5	284	286	288	283	280	285	
30.0	273	279	282	275	269	277	159
32.5	261	269	275	265	256	267	
35.0	251	256	265	252	243	255	
37.5	241	242	253	239	230	242	
40.0	227	230	239	227	218	230	156
42.5	209	217	223	214	207	216	
45.0	194	204	209	203	196	203	
47.5	183	190	193	190	184	189	
50.0	172	176	177	178	172	176	133
52.5	160	162	162	166	162	163	
55.0	147	148	148	153	152	149	
57.5	134	133	134	141	145	137	
60.0	114	119	120	126	124	121	86
62.5	92	100	106	110	107	104	
65.0	73	76	91	91	92	85	
67.5	65	61	76	76	77	71	
70.0	58	55	56	54	45	54	27
72.5	48	50	39	26	8	36	
75.0	35	35	31	5	2	22	
77.5	24	26	19	1	1	14	
80.0	4	9	3	1	0	4	1
82.5	1	1	0	0	0	0	
85.0	0	0	0	0	0	0	
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	12984 (3789)	12984 (3789)	12984 (3789)	12984 (3789)	12984 (3789)
30	13040 (3806)	13370 (3902)	13513 (3944)	13179 (3846)	12845 (3749)
40	12236 (3571)	12429 (3627)	12920 (3770)	12265 (3579)	11779 (3437)
45	11361 (3316)	11938 (3484)	12243 (3573)	11879 (3467)	11496 (3355)
50	11037 (3221)	11378 (3321)	11385 (3322)	11467 (3346)	11089 (3236)
55	10625 (3101)	10669 (3114)	10681 (3117)	11024 (3217)	11002 (3211)
60	9416 (2748)	9841 (2872)	9907 (2891)	10443 (3048)	10263 (2995)
65	7094 (2070)	7480 (2183)	8953 (2613)	8929 (2606)	9048 (2641)
70	7065 (2062)	6677 (1949)	6840 (1996)	6553 (1912)	5462 (1594)
75	5568 (1625)	5610 (1637)	4962 (1448)	758 (221)	317 (92)
80	952 (278)	2077 (606)	627 (183)	143 (41)	71 (20)
85	142 (41)	40 (11)	40 (11)	81 (23)	40 (11)

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LUMINAIRE OPERATING AT 120 VAC AND 26.2 WATTS

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	1.111.111.111.11	1.061.061.061.06	1.021.021.021.02	1.00																		
1	1.131.091.051.02	1.111.071.041.00	1.081.051.020.99	1.010.980.96	0.970.950.93	0.930.920.90	0.88																		
2	1.050.980.910.86	1.020.960.900.85	1.000.940.880.84	0.900.860.82	0.870.840.80	0.840.810.78	0.77																		
3	0.960.870.790.73	0.940.850.780.73	0.920.840.770.72	0.810.750.71	0.780.740.70	0.760.720.68	0.67																		
4	0.890.770.690.63	0.870.760.680.62	0.850.750.680.62	0.730.660.61	0.700.650.60	0.680.640.60	0.58																		
5	0.820.690.600.54	0.800.680.590.53	0.770.670.590.53	0.650.580.53	0.630.570.52	0.610.560.51	0.49																		
6	0.750.620.530.47	0.730.610.520.47	0.710.600.520.46	0.580.510.46	0.560.500.45	0.550.490.45	0.43																		
7	0.690.560.470.41	0.680.550.460.41	0.660.540.460.40	0.520.450.40	0.510.450.40	0.500.440.39	0.38																		
8	0.640.500.410.35	0.620.490.410.35	0.610.480.410.35	0.470.400.35	0.460.390.35	0.450.390.34	0.33																		
9	0.590.450.360.30	0.570.440.360.30	0.560.440.360.30	0.420.350.30	0.410.350.30	0.400.340.30	0.28																		
10	0.540.410.320.27	0.530.400.320.27	0.520.400.320.27	0.390.320.27	0.380.310.26	0.370.310.26	0.25																		

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 26.2

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:	0.379	AMPS
INPUT POWER:	26.2	WATTS
POWER FACTOR:	57.6	PERCENT
TOTAL HARMONIC DISTORTION:	76.84	PERCENT
OFF STATE POWER:	0.00	WATTS

LIGHT OUTPUT

LUMENS:	810	lm
EFFICACY:	30.9	lm/W

SPECTRAL MEASUREMENTS

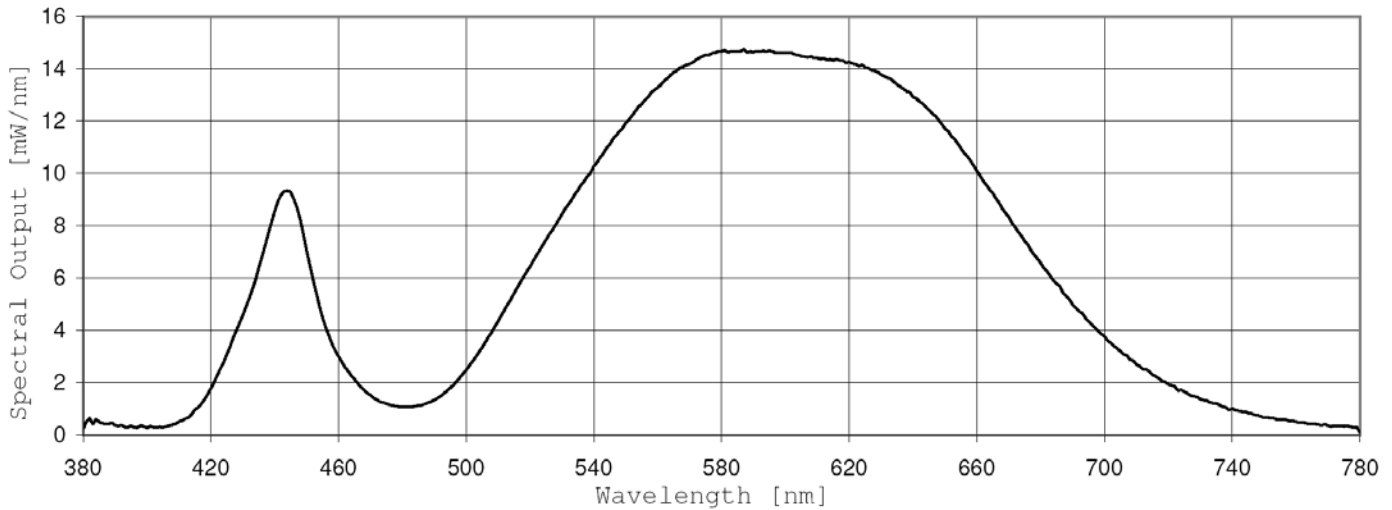
X:	0.4380	
y:	0.4040	
u/u':	0.2513	
v:	0.3477	
v':	0.5215	
Duv:	0.0003	
CRI (R _a):	74.3	
CRI (R _g):	12.4	
CCT:	2979	K
RADIANT FLUX:	2556	mW

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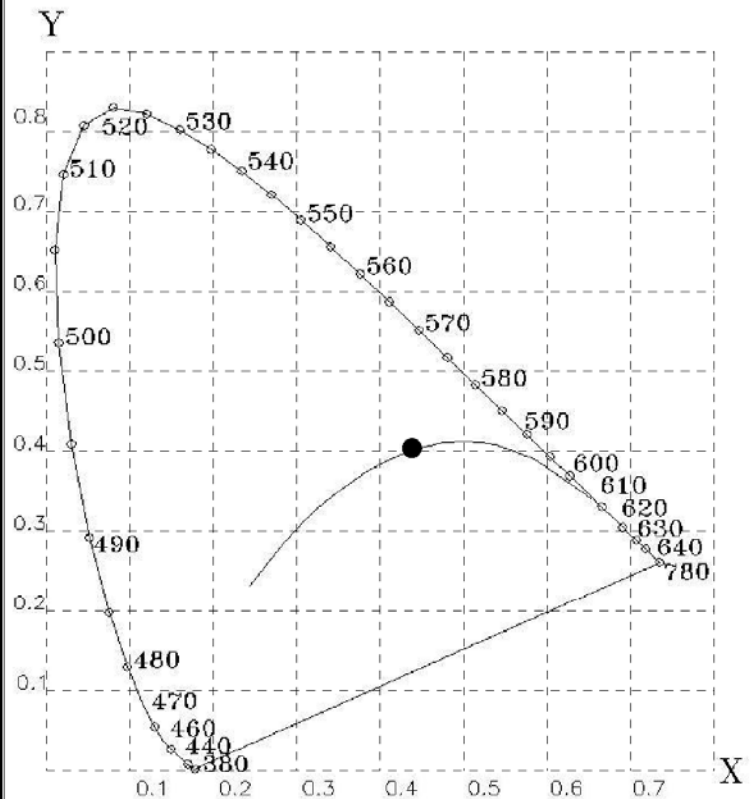
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.24080	590	14.65177
390	0.37088	600	14.61512
400	0.27341	610	14.42440
410	0.51575	620	14.26304
420	1.77633	630	13.78068
430	4.57265	640	12.92935
440	8.55567	650	11.71750
450	7.05141	660	10.09735
460	3.00718	670	8.33924
470	1.52326	680	6.58152
480	1.07984	690	4.99150
490	1.33235	700	3.76833
500	2.48529	710	2.69270
510	4.34643	720	1.93635
520	6.43014	730	1.37341
530	8.44055	740	1.01115
540	10.28596	750	0.65735
550	11.94141	760	0.49867
560	13.28719	770	0.35860
570	14.18648	780	0.09920
580	14.67460		

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.