



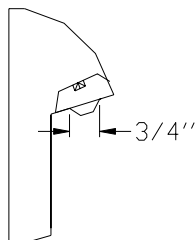
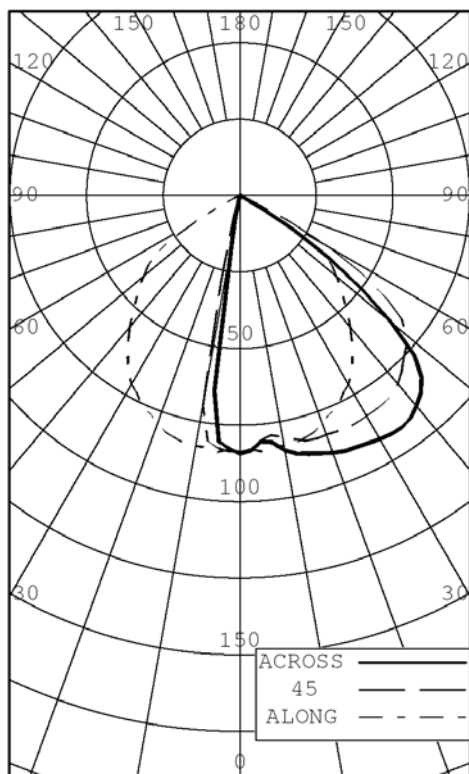
Lighting Sciences

www.lightingsciences.com

Lighting Sciences Inc.
7826 E. Evans Road
Scottsdale, Arizona 85260 USA
Tel: 480-991-9260 • Fax: 480-991-0375

INDEPENDENT TEST LABORATORY REPORT No. 27625

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLEDR5Y
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS
ONE LED ARRAY. LUMINAIRE OUTPUT = 133 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS



INTENSITY (CANDLEPOWER)					SUMMARY	OUTPUT LUMENS
ANGLE	ALONG	BEAM 67.5	SIDE 45	22.5	ACROSS	
0	84	84	84	84	84	4
5	84	85	80	80	81	
10	83	81	80	83	85	
15	82	81	83	86	87	12
20	79	83	83	88	90	19
25	76	80	84	90	91	
30	71	77	83	92	92	
35	64	73	82	93	92	25
40	56	69	80	90	90	28
45	48	65	76	83	84	
50	41	59	71	68	65	
55	34	49	58	40	35	20
60	15	43	33	11	8	6
65	2	34	6	1	0	
70	0	9	1	1	0	
75	0	0	1	1	0	0
80	0	0	0	0	1	0
85	0	0	0	0	0	
90	0	0	0	0	0	

BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	47	35.18
0-40	75	56.31
0-60	127	95.13
0-90	133	100.00
40-90	58	43.69
60-90	6	4.87
90-180	0	0.00
0-180	133	100.00

EFFICACY (LUMENS PER WATT): 25.1

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 1.625 INS
WIDTH: 0.750 INS

LUMINANCE SUMMARY - CD./SQ.M.

ANGLE	BEAM SIDE		
	ALONG	45	ACROSS
45	86332	136337	151379
55	75388	130029	78639
65	6018	18332	1457
75	0	2999	2129
85	0	0	2604

CERTIFIED BY:

James E. Walker III

DATE:
SEP 21, 2010

PREPARED FOR:
RAB LIGHTING
NORTHVALE, NJ

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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BEAM SIDE
INTENSITY (CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS	AVERAGE	
0.0	84	84	84	84	84	84	
2.5	83	87	84	83	83	84	
5.0	84	85	80	80	81	82	4
7.5	83	83	79	80	81	81	
10.0	83	81	80	83	85	82	
12.5	83	80	82	85	86	83	
15.0	82	81	83	86	87	84	12
17.5	81	82	83	87	88	84	
20.0	79	83	83	88	90	85	
22.5	77	82	83	89	90	85	
25.0	76	80	84	90	91	84	19
27.5	73	79	83	91	91	84	
30.0	71	77	83	92	92	83	
32.5	68	75	83	93	92	83	
35.0	64	73	82	93	92	82	25
37.5	60	71	82	92	92	80	
40.0	56	69	80	90	90	78	
42.5	52	67	78	86	87	75	
45.0	48	65	76	83	84	72	28
47.5	45	62	74	77	77	69	
50.0	41	59	71	68	65	63	
52.5	38	54	67	55	50	55	
55.0	34	49	58	40	35	45	20
57.5	27	46	47	25	21	35	
60.0	15	43	33	11	8	25	
62.5	7	43	18	3	2	17	
65.0	2	34	6	1	0	10	6
67.5	0	21	2	1	0	6	
70.0	0	9	1	1	0	3	
72.5	0	1	1	1	1	1	
75.0	0	0	1	1	0	0	0
77.5	0	0	0	0	1	0	
80.0	0	0	0	0	1	0	
82.5	0	0	0	0	0	0	
85.0	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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BEAM SIDE
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG		67.5	45	22.5	ACROSS	
0	107065(31248)	107065(31248)	107065(31248)	107065(31248)	107065(31248)	107065(31248)	
30	104266(30431)	113414(33101)	122252(35681)	135093(39429)	134954(39388)		
40	92971(27135)	114876(33528)	133337(38916)	149174(43538)	148857(43446)		
45	86332(25197)	116780(34084)	136337(39792)	149324(43582)	151379(44182)		
50	81120(23676)	116376(33966)	139985(40856)	134954(39388)	127699(37270)		
55	75388(22003)	108555(31683)	130029(37951)	88235(25752)	78639(22952)		
60	38153(11135)	110600(32280)	84268(24595)	28306(8261)	20803(6071)		
65	6018(1756)	102138(29810)	18332(5350)	2070(604)	1457(425)		
70	0(0)	31943(9323)	2746(801)	2555(745)	1322(385)		
75	0(0)	2129(621)	2999(875)	3005(877)	2129(621)		
80	0(0)	1867(545)	2614(763)	3539(1033)	4092(1194)		
85	0(0)	0(0)	0(0)	0(0)	2604(760)		

LUMINOUS LENGTH: 1.625 INS
WIDTH: 0.750 INS

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OPPOSITE SIDE TO BEAM
INTENSITY(CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE					AVERAGE	OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS		
0.0	84	84	84	84	84	84	
2.5	83	86	84	83	83	84	
5.0	84	86	83	82	81	83	4
7.5	83	85	81	73	64	78	
10.0	83	83	70	24	15	57	
12.5	83	80	29	10	7	41	
15.0	82	76	11	5	2	33	5
17.5	81	69	7	1	1	29	
20.0	79	46	3	1	0	22	
22.5	77	25	1	0	0	16	
25.0	76	10	0	0	0	12	3
27.5	73	6	1	0	0	11	
30.0	71	4	0	0	0	10	
32.5	68	3	0	0	0	9	
35.0	64	2	0	0	0	8	3
37.5	60	2	0	0	0	8	
40.0	56	1	0	0	0	7	
42.5	52	1	0	0	0	7	
45.0	48	1	0	0	0	6	2
47.5	45	1	0	0	0	6	
50.0	41	0	0	0	0	5	
52.5	38	0	0	0	0	5	
55.0	34	0	0	0	0	4	2
57.5	27	0	0	0	0	3	
60.0	15	0	0	0	0	2	
62.5	7	0	0	0	0	1	
65.0	2	0	0	0	0	0	0
67.5	0	0	0	0	0	0	
70.0	0	0	0	0	0	0	
72.5	0	0	0	0	0	0	
75.0	0	0	0	0	0	0	0
77.5	0	0	0	0	0	0	
80.0	0	0	0	0	0	0	
82.5	0	0	0	0	0	0	
85.0	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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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	1.221	1.221	1.22	1.191	1.191	1.191	1.19	1.161	1.161	1.161	1.16	1.111	1.111	1.11	1.061	1.061	1.06	1.021	1.021	1.02	1.00			
1	1.151	1.111	1.081	1.05	1.121	1.091	1.061	1.03	1.101	1.071	1.041	1.02	1.031	1.010	0.99	0.990	0.970	0.96	0.960	0.940	0.93	0.91			
2	1.071	1.010	0.960	0.91	1.050	0.990	0.940	0.90	1.030	0.970	0.930	0.89	0.940	0.900	0.87	0.910	0.880	0.85	0.880	0.860	0.83	0.81			
3	1.000	0.910	0.840	0.79	0.980	0.900	0.840	0.79	0.960	0.880	0.830	0.78	0.860	0.810	0.77	0.830	0.790	0.75	0.810	0.770	0.74	0.73			
4	0.930	0.820	0.750	0.69	0.910	0.810	0.740	0.69	0.890	0.800	0.740	0.68	0.780	0.720	0.68	0.750	0.710	0.67	0.730	0.690	0.66	0.64			
5	0.860	0.740	0.660	0.60	0.840	0.730	0.660	0.60	0.820	0.720	0.650	0.60	0.700	0.640	0.59	0.680	0.630	0.59	0.670	0.620	0.58	0.56			
6	0.790	0.670	0.590	0.53	0.780	0.660	0.580	0.53	0.760	0.650	0.580	0.53	0.630	0.570	0.52	0.620	0.560	0.52	0.610	0.550	0.51	0.50			
7	0.730	0.600	0.520	0.47	0.720	0.600	0.520	0.47	0.700	0.590	0.520	0.46	0.570	0.510	0.46	0.560	0.500	0.46	0.550	0.500	0.45	0.44			
8	0.680	0.540	0.470	0.41	0.660	0.540	0.460	0.41	0.650	0.530	0.460	0.41	0.520	0.450	0.40	0.510	0.440	0.40	0.490	0.440	0.40	0.38			
9	0.620	0.490	0.410	0.35	0.610	0.490	0.410	0.35	0.600	0.480	0.410	0.35	0.470	0.400	0.35	0.460	0.390	0.35	0.450	0.390	0.35	0.33			
10	0.580	0.450	0.370	0.32	0.570	0.440	0.370	0.32	0.550	0.440	0.370	0.31	0.430	0.360	0.31	0.420	0.350	0.31	0.410	0.350	0.31	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 5.3

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:	0.096	AMPS
INPUT POWER:	5.3	WATTS
POWER FACTOR:	46.0	PERCENT
TOTAL HARMONIC DISTORTION:	86.26	PERCENT
OFF STATE POWER:	0.00	WATTS

LIGHT OUTPUT

LUMENS:	133	lm
EFFICACY:	25.1	lm/W

SPECTRAL MEASUREMENTS

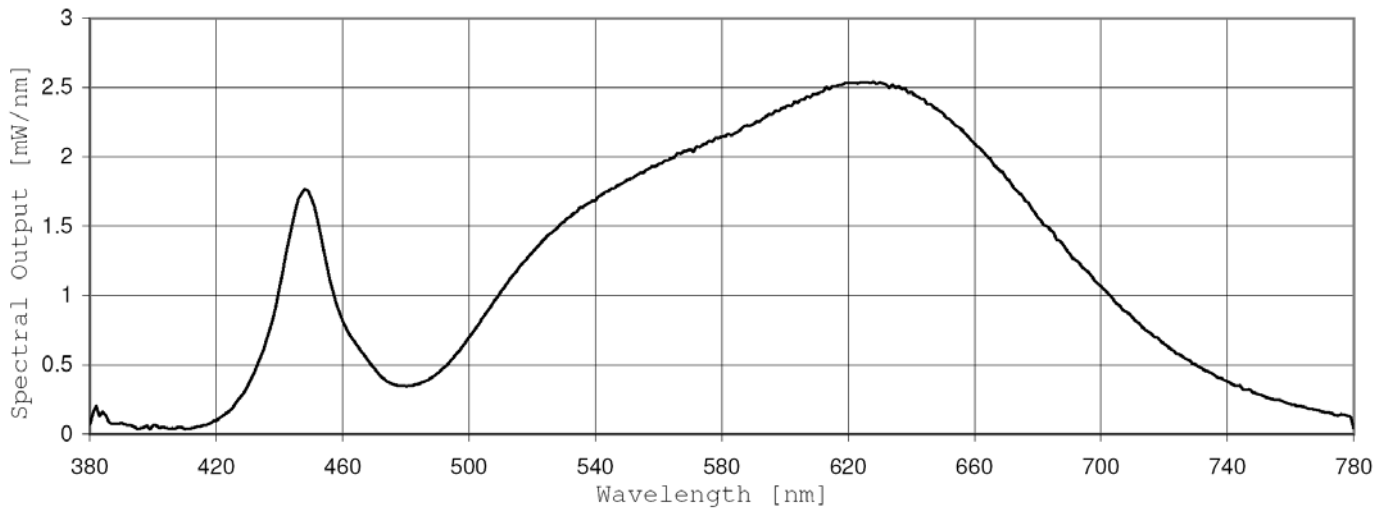
X:	0.4313	
y:	0.3962	
u/u':	0.2503	
v:	0.3449	
v':	0.5174	
Duv:	0.0025	
CRI (R _a):	87.7	
CRI (R ₉):	59.6	
CCT:	3031	K
RADIANT FLUX:	476	mW

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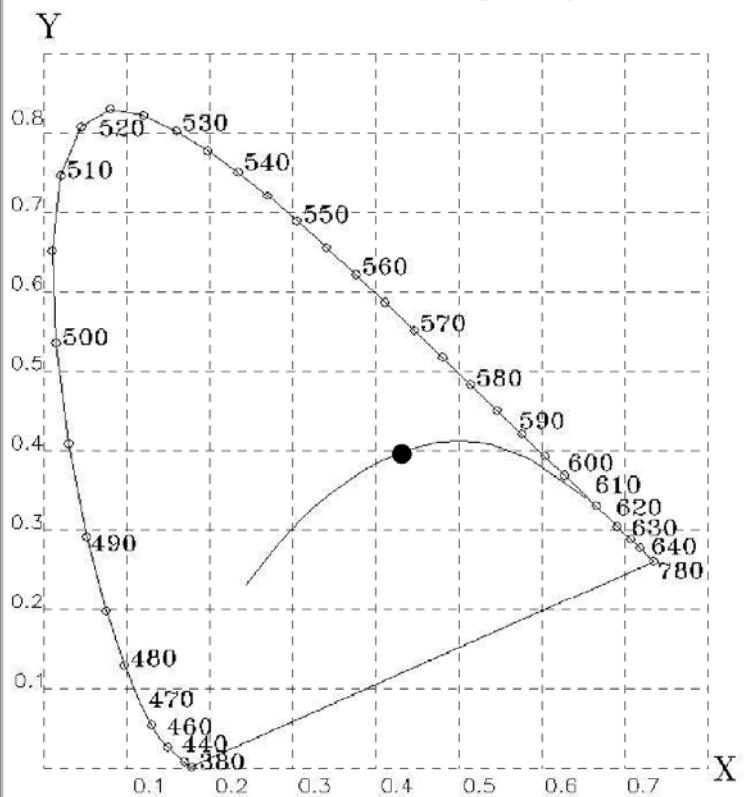
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.06943	590	2.23630
390	0.07966	600	2.35562
400	0.06247	610	2.45276
410	0.03695	620	2.53278
420	0.09580	630	2.53705
430	0.35242	640	2.46769
440	1.05725	650	2.31376
450	1.70636	660	2.09417
460	0.81655	670	1.84430
470	0.47351	680	1.56359
480	0.34588	690	1.30470
490	0.43819	700	1.06791
500	0.70050	710	0.84092
510	1.02498	720	0.65146
520	1.31017	730	0.50073
530	1.52926	740	0.37956
540	1.68419	750	0.28661
550	1.83257	760	0.21483
560	1.94706	770	0.16203
570	2.05423	780	0.04260
580	2.14640		

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.