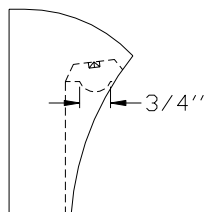
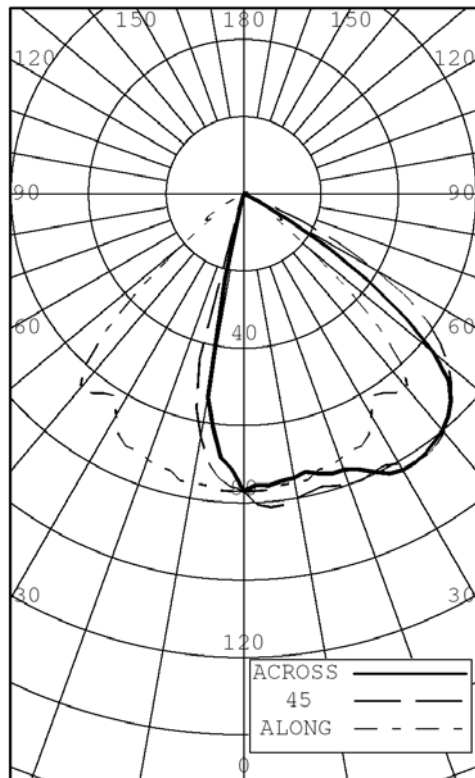




## INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS



INTENSITY (CANDLEPOWER) SUMMARY					OUTPUT LUMENS	
ANGLE	ALONG	BEAM SIDE 67.5	45	22.5 ACROSS		
0	77	77	77	77	4	
5	77	81	81	77		76
10	76	80	80	77		75
15	74	79	79	76	75	11
20	73	75	80	78	76	
25	72	74	79	80	79	18
30	66	72	81	84	83	
35	63	71	83	83	82	24
40	66	89	80	81	80	
45	51	87	76	78	76	28
50	22	58	69	68	64	
55	12	30	58	42	39	18
60	7	30	39	16	13	
65	1	26	17	2	2	6
70	0	6	2	1	1	
75	0	1	0	1	1	0
80	0	0	1	1	1	
85	0	0	1	1	1	0
90	0	0	0	0	0	

### BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	45	35.27
0-40	72	56.44
0-60	121	94.83
0-90	128	100.00
40-90	56	43.56
60-90	7	5.17
90-180	0	0.00
0-180	128	100.00

EFFICACY (LUMENS PER WATT): 24.2

\*\*\* 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	91727	136704	136475
55	26607	129860	87346
65	3009	50166	5447
75	0	2124	3006
85	0	15235	13394

CERTIFIED BY:

*James E. Walker III*

DATE:  
SEP 8, 2010

PREPARED FOR:  
RAB LIGHTING  
NORTHVALE, NJ

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

BEAM SIDE  
INTENSITY (CANDLEPOWER) DATA  
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS	AVERAGE	
0.0	77	77	77	77	77	77	
2.5	77	81	80	77	75	79	
5.0	77	81	81	77	76	79	4
7.5	76	81	81	76	75	79	
10.0	76	80	80	77	75	78	
12.5	76	80	79	75	74	77	
15.0	74	79	79	76	75	77	11
17.5	74	78	79	78	76	77	
20.0	73	75	80	78	76	77	
22.5	72	74	80	78	77	77	
25.0	72	74	79	80	79	77	18
27.5	70	73	79	83	82	78	
30.0	66	72	81	84	83	78	
32.5	62	72	82	84	83	77	
35.0	63	71	83	83	82	77	24
37.5	65	74	82	81	81	78	
40.0	66	89	80	81	80	81	
42.5	61	90	78	80	78	79	
45.0	51	87	76	78	76	76	28
47.5	37	79	73	75	72	70	
50.0	22	58	69	68	64	60	
52.5	11	37	64	56	53	47	
55.0	12	30	58	42	39	39	18
57.5	11	29	50	29	26	32	
60.0	7	30	39	16	13	24	
62.5	1	29	28	6	5	16	
65.0	1	26	17	2	2	11	6
67.5	1	16	6	1	1	6	
70.0	0	6	2	1	1	2	
72.5	0	1	1	1	0	1	
75.0	0	1	0	1	1	1	0
77.5	0	0	1	1	1	1	
80.0	0	0	1	1	1	1	
82.5	0	0	1	1	1	1	
85.0	0	0	1	1	1	1	0
87.5	0	0	0	1	0	0	
90.0	0	0	0	0	0	0	

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

BEAM SIDE  
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	67.5	45	22.5	ACROSS
0	97791( 28541)	97791( 28541)	97791( 28541)	97791( 28541)	97791( 28541)
30	96923( 28288)	106643( 31125)	118774( 34666)	123053( 35915)	121190( 35371)
40	109573( 31980)	147517( 43055)	133633( 39002)	134713( 39318)	132580( 38695)
45	91727( 26772)	156118( 45565)	136704( 39899)	140802( 41095)	136475( 39832)
50	43528( 12704)	115872( 33819)	136316( 39785)	134954( 39388)	126492( 36918)
55	26607( 7765)	65674( 19168)	129860( 37901)	94336( 27533)	87346( 25493)
60	17805( 5196)	77083( 22497)	99466( 29030)	39965( 11664)	34048( 9937)
65	3009( 878)	76967( 22463)	50166( 14641)	6364( 1857)	5447( 1590)
70	0( 0)	23317( 6805)	6441( 1879)	3880( 1132)	3683( 1075)
75	0( 0)	4009( 1170)	2124( 620)	5761( 1681)	3006( 877)
80	0( 0)	3548( 1035)	5415( 1580)	7265( 2120)	8557( 2497)
85	0( 0)	743( 217)	15235( 4446)	10043( 2931)	13394( 3909)

LUMINOUS LENGTH: 1.625 INS  
WIDTH: 0.750 INS

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE,CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

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

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS	AVERAGE	
0.0	77	77	77	77	77	77	
2.5	77	78	76	73	71	75	
5.0	77	76	74	71	69	73	3
7.5	76	75	70	65	61	70	
10.0	76	74	64	57	53	65	
12.5	76	70	57	38	23	54	
15.0	74	67	44	5	4	39	5
17.5	74	61	6	3	2	27	
20.0	73	56	4	1	1	25	
22.5	72	51	2	0	0	22	
25.0	72	31	1	0	0	17	4
27.5	70	6	0	0	0	10	
30.0	66	5	0	0	0	9	
32.5	62	3	0	0	0	8	
35.0	63	2	0	0	0	8	3
37.5	65	1	0	0	0	8	
40.0	66	0	0	0	0	8	
42.5	61	1	0	0	0	8	
45.0	51	0	0	0	0	6	2
47.5	37	0	0	0	0	5	
50.0	22	0	0	0	0	3	
52.5	11	0	0	0	0	1	
55.0	12	0	0	0	0	1	1
57.5	11	0	0	0	0	1	
60.0	7	0	0	0	0	1	
62.5	1	0	0	0	0	0	
65.0	1	0	0	0	0	0	0
67.5	1	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	

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 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	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	1.141	1.101	1.071	1.04	1.121	1.081	1.051	1.02	1.091	1.061	1.031	1.01	1.021	1.000	0.98	0.980	0.960	0.95	0.950	0.930	0.92	0.90			
2	1.071	1.000	0.950	0.90	1.040	0.980	0.930	0.89	1.020	0.970	0.920	0.88	0.930	0.890	0.86	0.900	0.870	0.84	0.870	0.850	0.82	0.81			
3	0.990	0.900	0.840	0.78	0.970	0.890	0.830	0.78	0.950	0.870	0.820	0.77	0.850	0.800	0.76	0.820	0.780	0.75	0.800	0.760	0.73	0.72			
4	0.920	0.820	0.740	0.69	0.900	0.810	0.730	0.68	0.880	0.790	0.730	0.68	0.770	0.710	0.67	0.750	0.700	0.66	0.730	0.690	0.65	0.63			
5	0.850	0.740	0.660	0.60	0.830	0.730	0.650	0.59	0.810	0.710	0.640	0.59	0.690	0.630	0.59	0.680	0.620	0.58	0.660	0.610	0.57	0.55			
6	0.790	0.670	0.580	0.53	0.770	0.660	0.580	0.52	0.750	0.650	0.570	0.52	0.630	0.570	0.52	0.610	0.560	0.51	0.600	0.550	0.51	0.49			
7	0.730	0.600	0.520	0.47	0.710	0.590	0.520	0.46	0.700	0.580	0.510	0.46	0.570	0.500	0.46	0.560	0.500	0.45	0.540	0.490	0.45	0.43			
8	0.670	0.540	0.460	0.40	0.660	0.530	0.460	0.40	0.640	0.520	0.450	0.40	0.510	0.450	0.40	0.500	0.440	0.39	0.490	0.430	0.39	0.37			
9	0.620	0.490	0.400	0.35	0.600	0.480	0.400	0.35	0.590	0.470	0.400	0.35	0.460	0.390	0.35	0.450	0.390	0.34	0.440	0.380	0.34	0.32			
10	0.570	0.440	0.360	0.31	0.560	0.440	0.360	0.31	0.550	0.430	0.360	0.31	0.420	0.350	0.31	0.410	0.350	0.30	0.400	0.340	0.30	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.

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

**ELECTRICAL MEASUREMENTS**

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.095	AMPS
INPUT POWER:	5.3	WATTS
POWER FACTOR:	46.5	PERCENT
TOTAL HARMONIC DISTORTION:	86.39	PERCENT
OFF STATE POWER:	0.00	WATTS

**LIGHT OUTPUT**

LUMENS:	128	lm
EFFICACY:	24.2	lm/W

**SPECTRAL MEASUREMENTS**

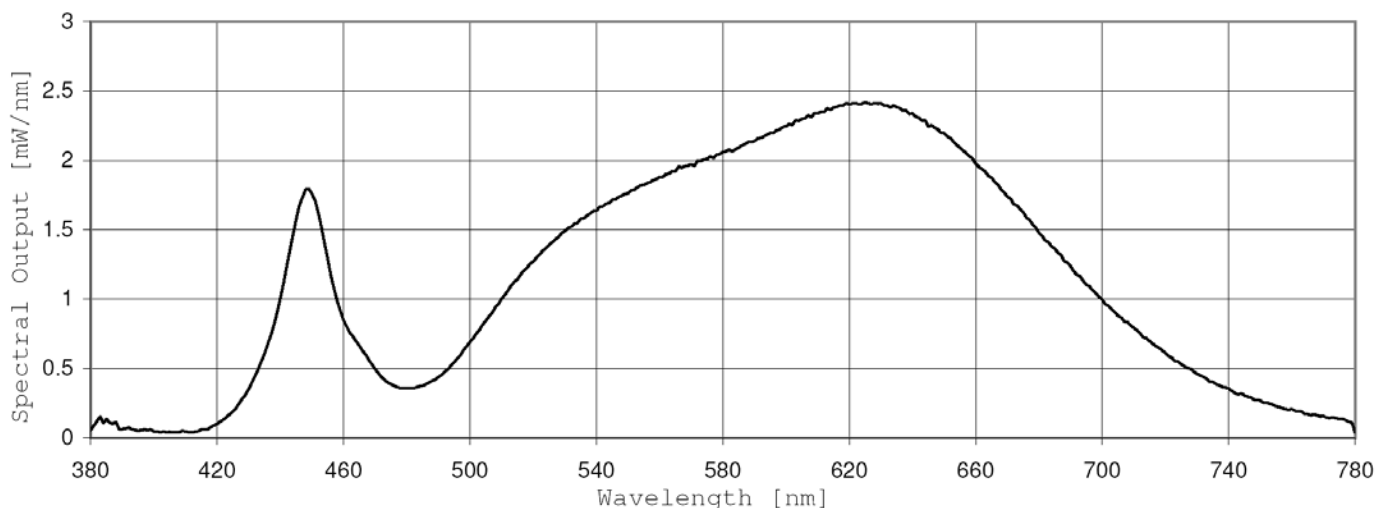
X:	0.4267	
y:	0.3932	
u/u':	0.2486	
v:	0.3437	
v':	0.5155	
Duv:	0.0030	
CRI (R <sub>a</sub> ):	87.9	
CRI (R <sub>9</sub> ):	60.2	
CCT:	3088	K
RADIANT FLUX:	457	mW

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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

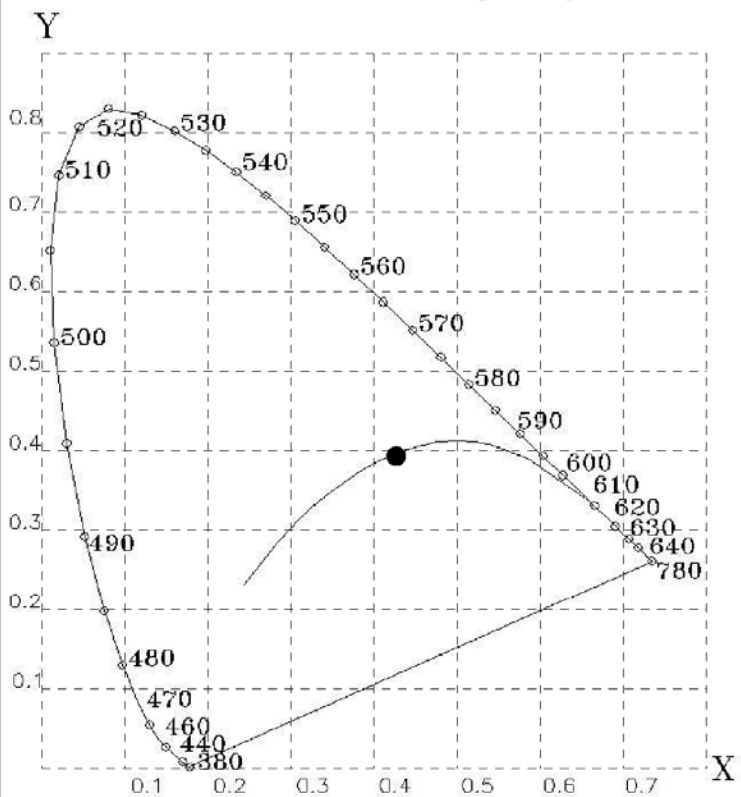
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.05590	590	2.13909
390	0.06183	600	2.24660
400	0.04556	610	2.33826
410	0.04369	620	2.40552
420	0.09950	630	2.41076
430	0.35200	640	2.33983
440	1.00913	650	2.19688
450	1.75894	660	1.97511
460	0.84648	670	1.74014
470	0.49411	680	1.47769
480	0.36014	690	1.23783
490	0.43686	700	0.99424
500	0.69063	710	0.79073
510	1.00268	720	0.61072
520	1.27200	730	0.46114
530	1.49028	740	0.35568
540	1.63570	750	0.26860
550	1.76280	760	0.20610
560	1.88013	770	0.15657
570	1.97294	780	0.03757
580	2.06014		

CIE 1931 Chromaticity Diagram



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

INDEPENDENT TEST LABORATORY REPORT No. 27623

RAB LIGHTING - LED STAIRWAY LUMINAIRE, CAT# SLED5Y  
WITH SPECULAR REFLECTOR AND CLEAR CURVED GLASS LENS  
ONE LED ARRAY. LUMINAIRE OUTPUT = 128 LMS.  
LUMINAIRE OPERATING AT 120 VAC AND 5.3 WATTS

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.  $4\pi$  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.