



UL Verification Services
7036 Snowdrift Road Suite 200
Allentown, PA 18106
610-774-1300



Photometric Indoor Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
TC Millwork
Leo Couchara
3433 Marshall LN
PO Box 826
Bensalem, PA 19020

Catalog Number
LED Spot
Project Number
10011087
Test Number
182669

Test Date

2013-05-07

Prepared By

Handwritten signature of Kyle Spaziani in black ink.

Kyle Spaziani, Project Coordinator

Approved By

Handwritten signature of Zachary Mooney in black ink.

Zachary Mooney, Project Coordinator

The results contained in this report pertain only to the tested sample.
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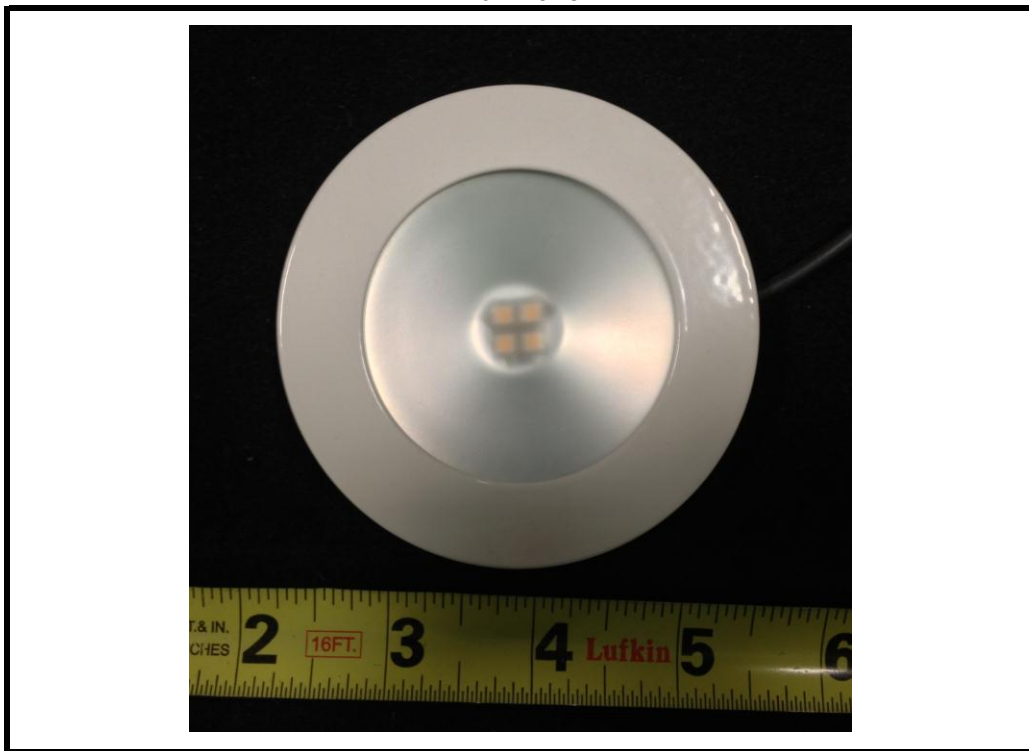


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Luminaire Description: Black steel backing, internal semi specular reflector, frosted plastic enclosure, lower white steel trim
Catalog Number: LED Spot
Lamp: Four white LEDs
Mounting: Recessed

Luminaire



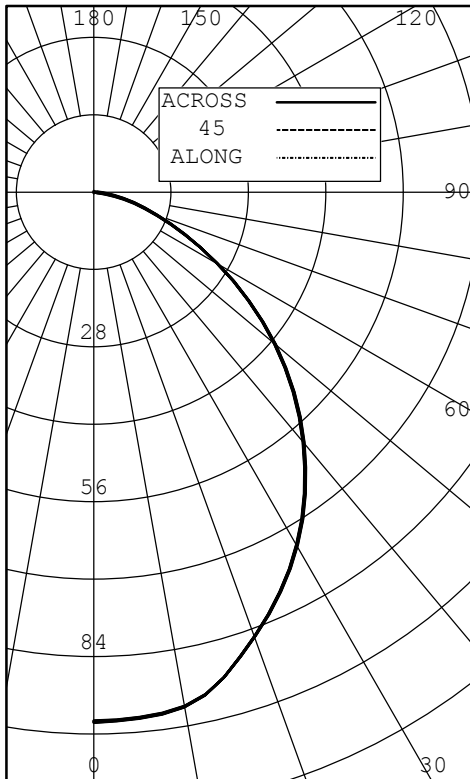
Test Conditions

Test Temperature:	25.2 °C
Voltage:	24.00 VDC
Current:	0.1248 A
Power:	2.994 W



INTENSITY (CANDLEPOWER) SUMMARY

ANGLE	MEAN CP	LUMENS
0	96	
5	96	9
10	95	
15	91	25
20	85	
25	80	37
30	74	
35	67	41
40	59	
45	51	39
50	43	
55	34	30
60	26	
65	18	18
70	12	
75	8	8
80	4	
85	2	2
90	0	



ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	71	33.84
0-40	113	53.52
0-60	183	86.61
0-90	211	100.00
40-90	98	46.48
60-90	28	13.39
90-180	0	0.00
0-180	211	100.00

EFFICACY (LUMENS PER WATT): 70.3

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS DIAMETER: 2.000 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.2
 SC: 1.2

ANGLE	MEAN CD/SQ M
45	35786
55	29525
65	21431
75	14507
85	8808

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	INTENSITY (CANDLEPOWER)	LUMENS
0.0	96	
2.5	96	
5.0	96	9
7.5	95	
10.0	95	
12.5	93	
15.0	91	25
17.5	88	
20.0	85	
22.5	83	
25.0	80	37
27.5	77	
30.0	74	
32.5	70	
35.0	67	41
37.5	63	
40.0	59	
42.5	55	
45.0	51	39
47.5	47	
50.0	43	
52.5	38	
55.0	34	30
57.5	30	
60.0	26	
62.5	22	
65.0	18	18
67.5	15	
70.0	12	
72.5	10	
75.0	8	8
77.5	6	
80.0	4	
82.5	2	
85.0	2	2
87.5	1	
90.0	0	



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	.06	1.021	.021	.02	1.00	
	1	1.131	.081	.051	.01	1.111	.061	.031	.00	1.081	.041	.010	.98	1.000	.970	.95	0.960	.940	.92	0.930	.910	.89	0.87		
	2	1.050	.980	.920	.86	1.030	.960	.900	.85	1.000	.940	.890	.84	0.900	.860	.82	0.870	.840	.81	0.850	.820	.79	0.77		
	3	0.970	.870	.800	.74	0.950	.860	.790	.74	0.930	.840	.780	.73	0.820	.760	.72	0.790	.750	.71	0.770	.730	.69	0.68		
	4	0.900	.790	.710	.65	0.880	.780	.710	.65	0.860	.770	.700	.64	0.740	.680	.64	0.720	.670	.63	0.700	.660	.62	0.60		
	5	0.840	.720	.630	.57	0.820	.710	.630	.57	0.800	.690	.620	.57	0.670	.610	.56	0.660	.600	.55	0.640	.590	.55	0.53		
	6	0.780	.650	.560	.51	0.760	.640	.560	.50	0.740	.630	.550	.50	0.610	.550	.50	0.600	.540	.49	0.580	.530	.49	0.47		
	7	0.710	.580	.500	.45	0.700	.580	.500	.44	0.690	.570	.490	.44	0.550	.480	.44	0.540	.480	.43	0.530	.470	.43	0.41		
	8	0.670	.530	.450	.40	0.650	.530	.450	.39	0.640	.520	.440	.39	0.510	.440	.39	0.490	.430	.39	0.480	.430	.38	0.37		
	9	0.620	.490	.410	.35	0.610	.480	.400	.35	0.590	.470	.400	.35	0.460	.390	.35	0.450	.390	.35	0.440	.390	.34	0.33		
	10	0.570	.450	.360	.31	0.560	.440	.360	.31	0.550	.430	.360	.31	0.420	.360	.31	0.420	.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

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.