



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300

Photometric Indoor Test Report

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

Prepared For
Elemental LED Inc, DBA Diode LED
Wes Buck
Suite 211, 1195 Park Ave.
Emeryville, CA 94608
United States

Catalog Number
CASCADE™ 12V Light Bar DI-0220
Project Number
10461972
Test Number
748171

Test Date

2014-09-17

Prepared By

Handwritten signature of Javier Caban in black ink.

Javier Caban, Technician

Approved By

Handwritten signature of Eric M. Gaudreau in black ink.

Eric Gaudreau, Engineering Project Handler

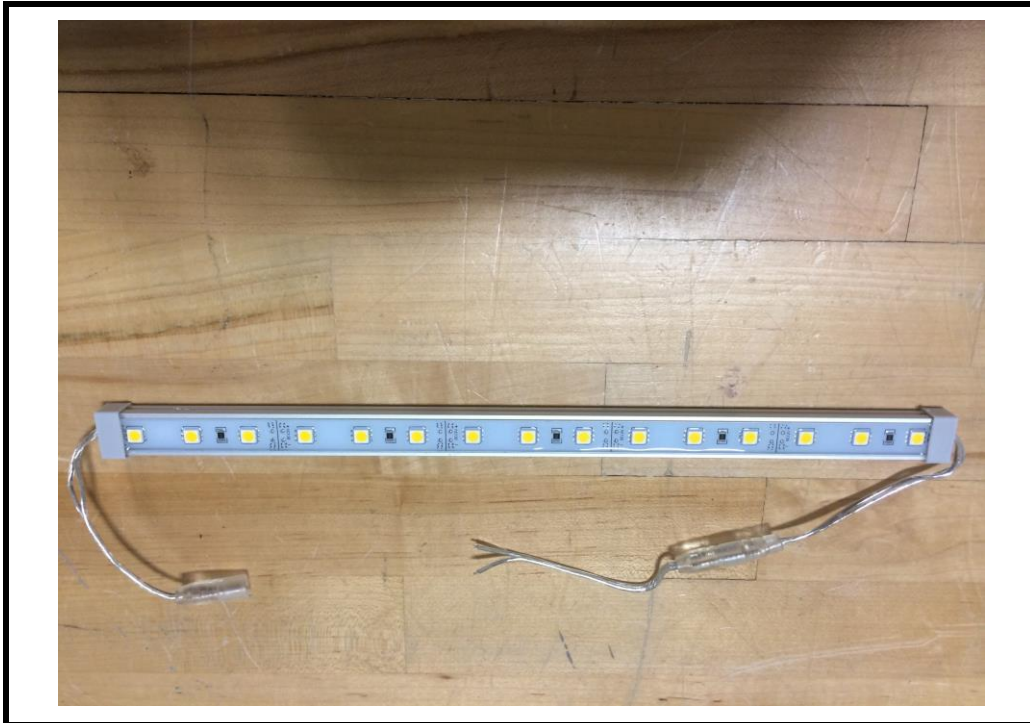
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Luminaire Description: Grey aluminum housing, no enclosure
Catalog Number: CASCADE™ 12V Light Bar DI-0220
Lamp: 15 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire

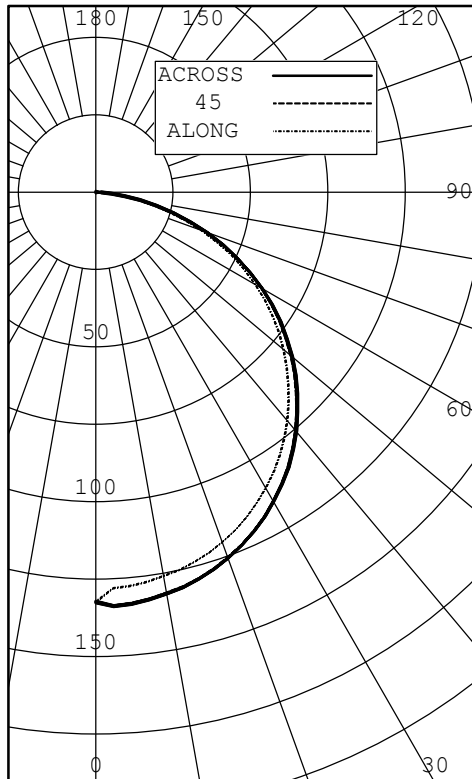


Test Conditions

Test Temperature:	24.5 °C
Voltage:	120.0 VAC
Current:	0.09537 A
Power:	5.066 W
Power Factor:	0.443
Frequency:	60 Hz
Current THD:	180 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	132	132	132	132	132	
5	128	132	133	133	134	13
10	126	130	132	131	132	
15	124	128	129	128	129	36
20	120	124	125	125	126	
25	116	119	121	120	121	55
30	110	114	115	114	115	
35	104	107	108	108	109	67
40	96	100	100	100	101	
45	88	91	92	91	92	70
50	79	82	82	82	83	
55	70	72	72	72	73	64
60	59	62	62	62	62	
65	48	50	50	50	50	49
70	37	38	38	38	39	
75	24	25	26	26	26	27
80	13	13	14	14	15	
85	5	5	5	5	5	6
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	104	26.79
0-40	171	44.09
0-60	305	78.76
0-90	387	100.00
40-90	217	55.91
60-90	82	21.24
90-180	0	0.00
0-180	387	100.00

EFFICACY (LUMENS PER WATT): 76.0

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 11.250 INS
 WIDTH: 0.500 INS

LUMINANCE SUMMARY CD./SQ.M.

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

ANGLE	ALONG	45	ACROSS
45	34254	35793	35969
55	33509	34842	35156
65	31525	32748	33020
75	25871	27341	28001
85	14227	15056	16821

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	132	132	132	132	132	132	
2.5	128	132	134	133	134	132	
5.0	128	132	133	133	134	132	13
7.5	127	131	132	132	133	131	
10.0	126	130	132	131	132	130	
12.5	125	129	130	130	131	129	
15.0	124	128	129	128	129	128	36
17.5	122	126	127	127	128	126	
20.0	120	124	125	125	126	124	
22.5	118	122	123	123	123	122	
25.0	116	119	121	120	121	120	55
27.5	113	117	118	117	118	117	
30.0	110	114	115	114	115	114	
32.5	107	111	112	111	112	111	
35.0	104	107	108	108	109	107	67
37.5	100	104	104	104	105	104	
40.0	96	100	100	100	101	100	
42.5	92	96	96	96	96	95	
45.0	88	91	92	91	92	91	70
47.5	84	87	87	87	88	87	
50.0	79	82	82	82	83	82	
52.5	75	77	77	77	78	77	
55.0	70	72	72	72	73	72	64
57.5	65	67	67	67	68	67	
60.0	59	62	62	62	62	61	
62.5	54	56	56	56	56	56	
65.0	48	50	50	50	50	50	49
67.5	43	44	44	44	45	44	
70.0	37	38	38	38	39	38	
72.5	30	32	32	32	32	32	
75.0	24	25	26	26	26	26	27
77.5	18	19	20	20	20	19	
80.0	13	13	14	14	15	14	
82.5	8	8	9	9	10	9	
85.0	5	5	5	5	5	5	6
87.5	2	2	2	2	2	2	
90.0	0	0	0	0	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	1.121	.071	.030	.99	1.101	.051	.010	.97	1.071	.030	.990	.96	0.990	.960	.93	0.950	.920	.90	0.910	.890	.87	0.85			
2	1.030	.950	.880	.82	1.000	.930	.870	.81	0.980	.910	.850	.80	0.870	.820	.78	0.840	.800	.76	0.810	.780	.75	0.73			
3	0.940	.830	.750	.69	0.920	.820	.740	.68	0.890	.800	.730	.67	0.770	.710	.66	0.750	.700	.65	0.720	.680	.64	0.62			
4	0.870	.750	.650	.59	0.850	.730	.650	.59	0.820	.720	.640	.58	0.690	.630	.57	0.670	.610	.57	0.650	.600	.56	0.54			
5	0.800	.670	.570	.50	0.780	.650	.570	.50	0.760	.640	.560	.50	0.620	.550	.50	0.600	.540	.49	0.580	.530	.48	0.46			
6	0.740	.600	.500	.44	0.720	.590	.500	.44	0.700	.580	.490	.43	0.560	.480	.43	0.540	.480	.43	0.530	.470	.42	0.40			
7	0.670	.530	.440	.38	0.660	.520	.440	.38	0.640	.520	.430	.37	0.500	.420	.37	0.480	.420	.37	0.470	.410	.37	0.35			
8	0.620	.480	.400	.33	0.610	.470	.390	.33	0.590	.470	.390	.33	0.450	.380	.33	0.440	.370	.33	0.430	.370	.32	0.30			
9	0.580	.440	.350	.29	0.560	.430	.350	.29	0.550	.420	.350	.29	0.410	.340	.29	0.400	.330	.29	0.390	.330	.28	0.27			
10	0.530	.400	.310	.26	0.520	.390	.310	.26	0.510	.390	.310	.26	0.380	.310	.26	0.370	.300	.25	0.360	.300	.25	0.24			

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.



Cone of Light

Cone Of Light Tabulation

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	8.30	5.10
6.00	3.69	7.66
8.00	2.07	10.2
10.0	1.33	12.8
12.0	0.922	15.3
14.0	0.677	17.9
16.0	0.519	20.4

Cone of Light Plot

