



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

## Integrating Sphere Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C78.377-2011, ANSI C82.77-2002  
CIE 13.3-1995, CIE 15-2004

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

Catalog Number  
BLAZE™ 12v LED Tape Light DI-12V-BL50-80XX

Order Number  
10460077  
Test Number  
758927

Test Date

2014-09-24

Prepared By

*Javier Caban*

Javier Caban, Technician

Approved By

*Eric M. Gaudreau*

Eric Gaudreau, Engineering Project Handler

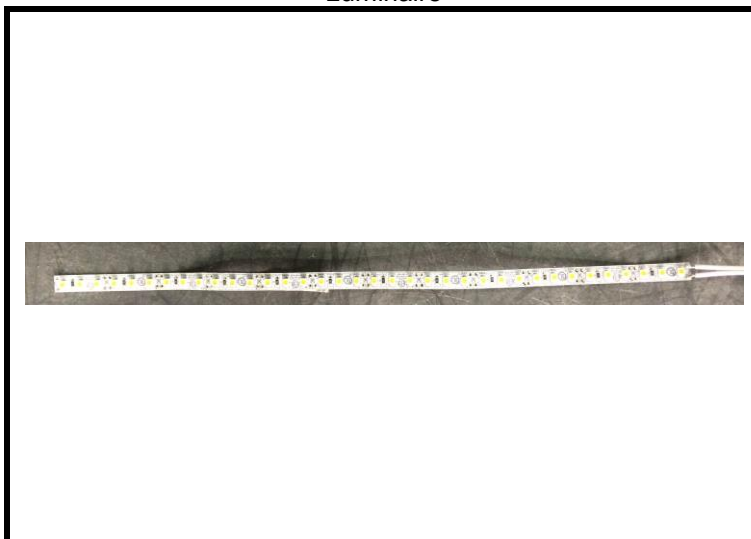
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Luminaire Description: LED strip  
Catalog Number: BLAZE™ 12v LED Tape Light DI-12V-BL50-80XX  
Lamp: 36 white LEDs  
Mounting: Surface  
Ballast/Driver: One Meanwell LPV-60-12

Luminaire



#### Summary of Results

Radiant Flux:	1015 mW
Luminous Flux:	323.7 Lumens
Luminaire Efficacy:	76.5 Lumens/Watt
CCT:	5154 K
CRI (Ra):	82.9
Chromaticity (x):	0.3410
Chromaticity (y):	0.3516
Chromaticity (u):	0.2087
Chromaticity (v):	0.3227
Duv:	0.0011

#### Test Conditions

Test Temperature:	25.0 °C
Voltage:	120.0 VAC
Current:	0.08648 A
Power:	4.230 W
Power Factor:	0.408
Frequency:	60 Hz
Current THD:	190 %

Testing was performed in a 1-meter integrating sphere using the 4 $\pi$  geometry method.

Absorption correction was employed for this measurement.

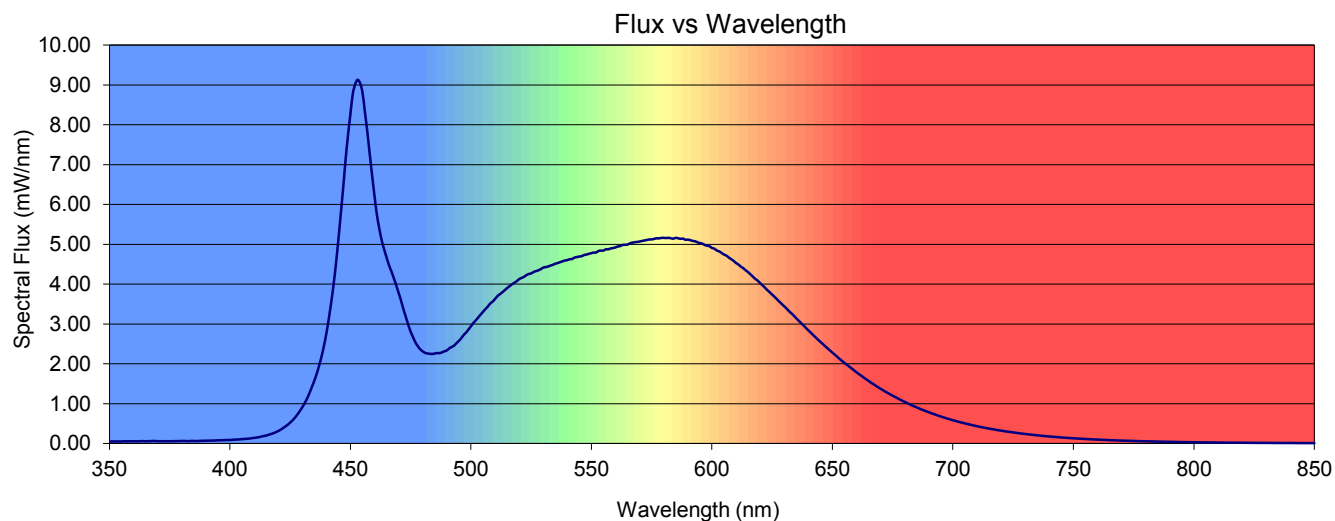
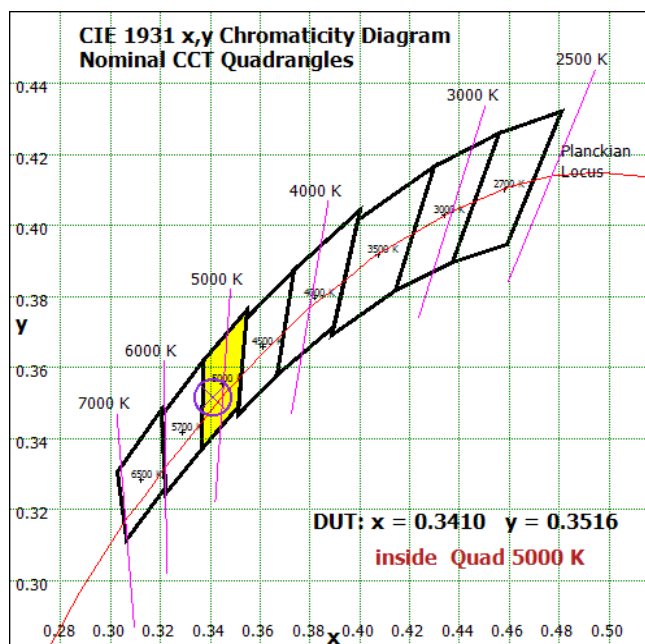
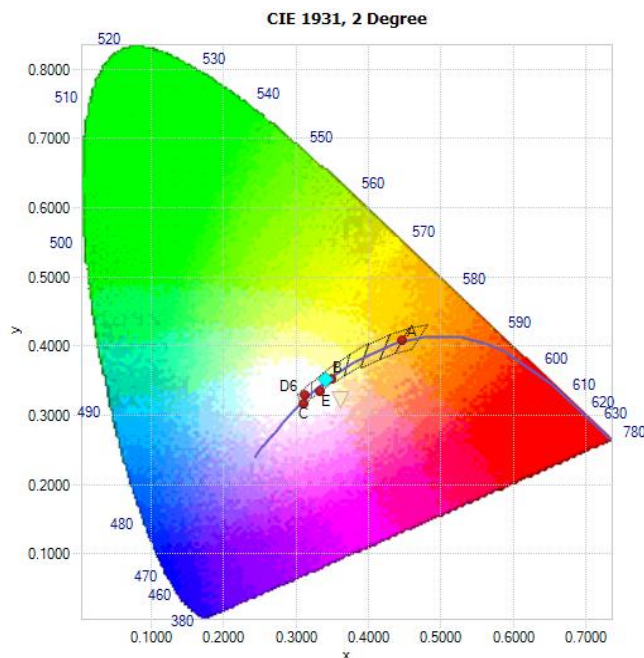


### Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.3410	0.3516	0.2087	0.3227	0.2087	0.4841	0.0011

### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82.9	81.3	89.4	93.3	81.2	81.5	83.9	86.3	66.1	5.9	73.6	79.8	59.3	83.7	96.7





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### Spectral Power Distribution

$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm
350	0.0446	422	0.384	494	2.52	566	5.02	638	2.97	710	0.435	782	0.0527
351	0.0529	423	0.427	495	2.58	567	5.04	639	2.90	711	0.421	783	0.0513
352	0.0504	424	0.471	496	2.64	568	5.05	640	2.84	712	0.410	784	0.0496
353	0.0524	425	0.525	497	2.72	569	5.06	641	2.78	713	0.397	785	0.0482
354	0.0521	426	0.582	498	2.78	570	5.07	642	2.72	714	0.386	786	0.0461
355	0.0507	427	0.649	499	2.86	571	5.08	643	2.67	715	0.374	787	0.0453
356	0.0553	428	0.727	500	2.94	572	5.10	644	2.61	716	0.364	788	0.0443
357	0.0548	429	0.814	501	3.02	573	5.11	645	2.55	717	0.354	789	0.0429
358	0.0548	430	0.905	502	3.09	574	5.12	646	2.50	718	0.343	790	0.0425
359	0.0562	431	1.01	503	3.16	575	5.12	647	2.44	719	0.333	791	0.0412
360	0.0551	432	1.13	504	3.23	576	5.13	648	2.39	720	0.323	792	0.0399
361	0.0561	433	1.26	505	3.30	577	5.15	649	2.33	721	0.314	793	0.0391
362	0.0548	434	1.42	506	3.37	578	5.15	650	2.28	722	0.303	794	0.0374
363	0.0588	435	1.57	507	3.44	579	5.16	651	2.23	723	0.296	795	0.0364
364	0.0595	436	1.74	508	3.51	580	5.16	652	2.18	724	0.288	796	0.0354
365	0.0558	437	1.95	509	3.56	581	5.16	653	2.12	725	0.278	797	0.0343
366	0.0583	438	2.18	510	3.63	582	5.16	654	2.07	726	0.270	798	0.0336
367	0.0596	439	2.44	511	3.70	583	5.15	655	2.03	727	0.262	799	0.0326
368	0.0639	440	2.75	512	3.75	584	5.14	656	1.98	728	0.254	800	0.0324
369	0.0618	441	3.11	513	3.79	585	5.16	657	1.93	729	0.247	801	0.0311
370	0.0577	442	3.52	514	3.85	586	5.15	658	1.88	730	0.239	802	0.0307
371	0.0566	443	3.98	515	3.90	587	5.14	659	1.84	731	0.233	803	0.0294
372	0.0579	444	4.50	516	3.95	588	5.14	660	1.79	732	0.226	804	0.0291
373	0.0567	445	5.11	517	3.99	589	5.11	661	1.74	733	0.219	805	0.0278
374	0.0568	446	5.75	518	4.03	590	5.12	662	1.70	734	0.213	806	0.0274
375	0.0576	447	6.41	519	4.07	591	5.10	663	1.66	735	0.206	807	0.0268
376	0.0568	448	7.12	520	4.12	592	5.08	664	1.61	736	0.199	808	0.0258
377	0.0593	449	7.73	521	4.16	593	5.08	665	1.57	737	0.194	809	0.0253
378	0.0602	450	8.27	522	4.18	594	5.05	666	1.53	738	0.187	810	0.0249
379	0.0610	451	8.78	523	4.22	595	5.03	667	1.49	739	0.183	811	0.0250
380	0.0627	452	9.02	524	4.25	596	5.02	668	1.45	740	0.176	812	0.0238
381	0.0651	453	9.13	525	4.27	597	4.98	669	1.41	741	0.171	813	0.0230
382	0.0591	454	9.05	526	4.30	598	4.96	670	1.37	742	0.167	814	0.0219
383	0.0617	455	8.82	527	4.33	599	4.95	671	1.34	743	0.162	815	0.0211
384	0.0641	456	8.33	528	4.35	600	4.91	672	1.30	744	0.157	816	0.0212
385	0.0639	457	7.84	529	4.38	601	4.89	673	1.27	745	0.152	817	0.0207
386	0.0621	458	7.28	530	4.41	602	4.85	674	1.23	746	0.147	818	0.0207
387	0.0648	459	6.74	531	4.43	603	4.82	675	1.20	747	0.144	819	0.0198
388	0.0672	460	6.22	532	4.44	604	4.78	676	1.17	748	0.139	820	0.0191
389	0.0694	461	5.74	533	4.46	605	4.74	677	1.14	749	0.134	821	0.0191
390	0.0697	462	5.39	534	4.48	606	4.72	678	1.11	750	0.131	822	0.0183
391	0.0724	463	5.10	535	4.51	607	4.67	679	1.07	751	0.128	823	0.0172
392	0.0720	464	4.87	536	4.53	608	4.63	680	1.05	752	0.124	824	0.0178
393	0.0752	465	4.67	537	4.55	609	4.58	681	1.02	753	0.121	825	0.0166
394	0.0762	466	4.48	538	4.57	610	4.53	682	0.985	754	0.117	826	0.0161
395	0.0800	467	4.32	539	4.59	611	4.49	683	0.957	755	0.113	827	0.0161
396	0.0814	468	4.15	540	4.60	612	4.44	684	0.932	756	0.111	828	0.0155
397	0.0827	469	3.97	541	4.62	613	4.40	685	0.907	757	0.107	829	0.0153
398	0.0856	470	3.78	542	4.63	614	4.35	686	0.880	758	0.104	830	0.0157
399	0.0882	471	3.59	543	4.67	615	4.30	687	0.855	759	0.101	831	0.0152
400	0.0891	472	3.37	544	4.68	616	4.25	688	0.832	760	0.0983	832	0.0146
401	0.0921	473	3.18	545	4.69	617	4.19	689	0.807	761	0.0954	833	0.0138
402	0.0982	474	2.98	546	4.70	618	4.13	690	0.786	762	0.0929	834	0.0136
403	0.100	475	2.81	547	4.73	619	4.09	691	0.762	763	0.0903	835	0.0133
404	0.104	476	2.67	548	4.74	620	4.03	692	0.740	764	0.0880	836	0.0128
405	0.109	477	2.54	549	4.76	621	3.97	693	0.720	765	0.0848	837	0.0127
406	0.115	478	2.44	550	4.78	622	3.91	694	0.698	766	0.0824	838	0.0128
407	0.118	479	2.36	551	4.79	623	3.85	695	0.677	767	0.0798	839	0.0127
408	0.124	480	2.31	552	4.79	624	3.80	696	0.658	768	0.0770	840	0.0125
409	0.132	481	2.27	553	4.83	625	3.74	697	0.639	769	0.0754	841	0.0117
410	0.141	482	2.26	554	4.84	626	3.68	698	0.621	770	0.0736	842	0.0113
411	0.148	483	2.25	555	4.84	627	3.62	699	0.602	771	0.0714	843	0.0113
412	0.159	484	2.25	556	4.87	628	3.56	700	0.585	772	0.0697	844	0.0106
413	0.173	485	2.26	557	4.87	629	3.50	701	0.569	773	0.0680	845	0.0104
414	0.188	486	2.27	558	4.89	630	3.45	702	0.551	774	0.0654	846	0.0104
415	0.199	487	2.27	559	4.91	631	3.39	703	0.535	775	0.0637	847	0.00972
416	0.218	488	2.29	560	4.92	632	3.32	704	0.521	776	0.0622	848	0.00972
417	0.237	489	2.31	561	4.95	633	3.27	705	0.505	777	0.0599	849	0.00994
418	0.258	490	2.34	562	4.96	634	3.21	706	0.491	778	0.0585	850	0.0100
419	0.283	491	2.39	563	4.98	635	3.14	707	0.476	779	0.0570		
420	0.312	492	2.42	564	4.99	636	3.08	708	0.463	780	0.0554		
421	0.345	493	2.46	565	4.99	637	3.03	709	0.448	781	0.0545		



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## 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  
BLAZE™ 12v LED Tape Light DI-12V-BL50-80XX  
Project Number  
10460077  
Test Number  
758926

Test Date

2014-09-19

Prepared By

Handwritten signature of Javier Caban.

Javier Caban, Technician

Approved By

Handwritten signature of Eric M. Gaudreau.

Eric Gaudreau, Engineering Project Handler

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Luminaire Description: LED strip  
Catalog Number: BLAZE™ 12v LED Tape Light DI-12V-BL50-80XX  
Lamp: 36 white LEDs  
Mounting: Surface  
Ballast/Driver: One Meanwell LPV-60-12

Luminaire

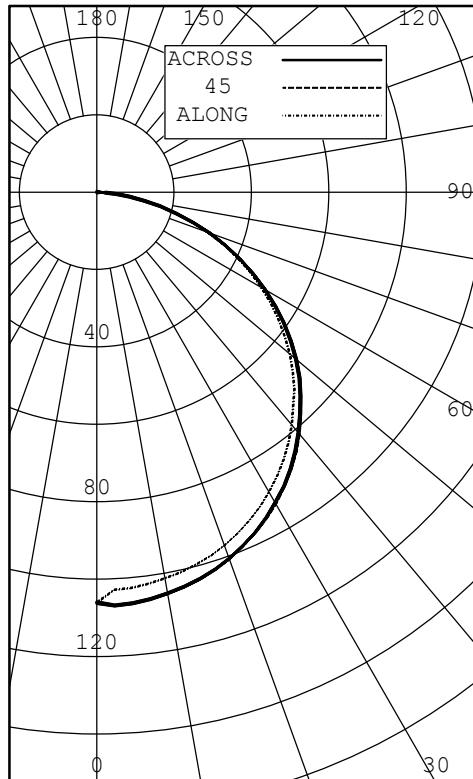


#### Test Conditions

Test Temperature:	24.3 °C
Voltage:	120.0 VAC
Current:	0.08356 A
Power:	4.345 W
Power Factor:	0.433
Frequency:	60 Hz
Current THD:	181 %



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# INTENSITY (CANDLEPOWER) SUMMARY OUTPUT

ANGLE	ALONG	22.5	45	67.5	ACROSS	LUMENS
0	106	106	106	106	106	
5	103	106	107	106	107	10
10	101	104	105	105	105	
15	100	103	104	103	103	29
20	97	100	101	100	101	
25	94	97	97	97	97	44
30	89	92	93	92	92	
35	84	87	88	87	87	54
40	78	81	81	81	81	
45	72	74	75	74	74	57
50	65	67	67	67	67	
55	57	59	59	59	59	52
60	49	50	50	50	50	
65	40	41	41	41	41	40
70	31	31	31	31	31	
75	21	22	22	22	21	23
80	12	13	13	13	12	
85	5	6	5	5	5	6
90	0	0	0	0	0	

## ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	84	26.36
0-40	138	43.48
0-60	247	78.07
0-90	317	100.00
40-90	179	56.52
60-90	69	21.93
90-180	0	0.00
0-180	317	100.00

EFFICACY (LUMENS PER WATT): 73.7

\*\*\* THIS IS AN ABSOLUTE TEST \*\*\*

LUMINOUS LENGTH: 12.000 INS  
WIDTH: 0.375 INS

## LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.3  
SC: 1.3

ANGLE	ALONG	45	ACROSS
45	35169	36453	36379
55	34409	35686	35566
65	32560	33615	33421
75	28014	28980	28655
85	19958	21594	20431

TESTED IN ACCORDANCE WITH IES PROCEDURES.



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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	106	106	106	106	106	106	
2.5	103	106	107	107	107	106	
5.0	103	106	107	106	107	106	10
7.5	102	105	106	106	106	105	
10.0	101	104	105	105	105	105	
12.5	101	104	105	104	104	104	
15.0	100	103	104	103	103	103	29
17.5	98	101	102	102	102	101	
20.0	97	100	101	100	101	100	
22.5	95	98	99	99	99	98	
25.0	94	97	97	97	97	96	44
27.5	92	94	95	95	95	94	
30.0	89	92	93	92	92	92	
32.5	87	90	90	90	90	90	
35.0	84	87	88	87	87	87	54
37.5	81	84	85	84	84	84	
40.0	78	81	81	81	81	81	
42.5	75	78	78	78	78	77	
45.0	72	74	75	74	74	74	57
47.5	69	71	71	71	71	71	
50.0	65	67	67	67	67	67	
52.5	61	63	63	63	63	63	
55.0	57	59	59	59	59	59	52
57.5	53	55	55	55	55	55	
60.0	49	50	50	50	50	50	
62.5	45	46	46	46	46	46	
65.0	40	41	41	41	41	41	40
67.5	35	36	36	36	36	36	
70.0	31	31	31	31	31	31	
72.5	26	27	27	27	26	26	
75.0	21	22	22	22	21	22	23
77.5	17	17	17	17	17	17	
80.0	12	13	13	13	12	13	
82.5	9	9	9	9	9	9	
85.0	5	6	5	5	5	5	6
87.5	2	3	3	3	3	3	
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	.221	.221	.22	1.191	.191	.191	.19	1.161	.161	.161	.16	1.111	.111	.11	1.061	.061	.06	1.021	.021	.02	1.00			
1	1.121	.071	.020	.98	1.091	.041	.000	.97	1.061	.020	.980	.95	0.980	.950	.92	0.940	.920	.89	0.900	.880	.86	0.84			
2	1.020	.940	.870	.81	1.000	.920	.860	.80	0.970	.900	.840	.79	0.870	.820	.77	0.830	.790	.76	0.800	.770	.74	0.72			
3	0.940	.830	.740	.68	0.910	.810	.730	.67	0.890	.800	.720	.67	0.770	.710	.65	0.740	.690	.64	0.720	.670	.63	0.61			
4	0.860	.740	.650	.58	0.840	.730	.640	.58	0.820	.710	.640	.57	0.690	.620	.57	0.660	.610	.56	0.640	.590	.55	0.53			
5	0.800	.660	.570	.50	0.770	.650	.560	.49	0.750	.640	.550	.49	0.610	.540	.49	0.590	.530	.48	0.580	.520	.48	0.46			
6	0.730	.590	.500	.43	0.710	.580	.490	.43	0.690	.570	.490	.43	0.550	.480	.42	0.530	.470	.42	0.520	.460	.41	0.39			
7	0.670	.530	.430	.38	0.650	.520	.430	.37	0.640	.510	.430	.37	0.490	.420	.37	0.480	.410	.36	0.470	.410	.36	0.34			
8	0.620	.480	.390	.33	0.600	.470	.390	.33	0.590	.460	.380	.32	0.450	.370	.32	0.440	.370	.32	0.420	.360	.32	0.30			
9	0.570	.430	.340	.29	0.560	.430	.340	.29	0.550	.420	.340	.29	0.410	.330	.28	0.400	.330	.28	0.390	.320	.28	0.26			
10	0.530	.390	.310	.25	0.520	.390	.310	.25	0.510	.380	.310	.25	0.370	.300	.25	0.360	.290	.25	0.350	.290	.25	0.23			

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.



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## Cone of Light

**Cone Of Light Tabulation**

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	6.66	5.14
6.00	2.96	7.71
8.00	1.66	10.3
10.0	1.07	12.9
12.0	0.740	15.4
14.0	0.544	18.0
16.0	0.416	20.6

**Cone of Light Plot**

