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-BL38-80XX

Order Number
10460077
Test Number
758923

Test Date

2014-09-23

Prepared By

Javier Caban, Technician

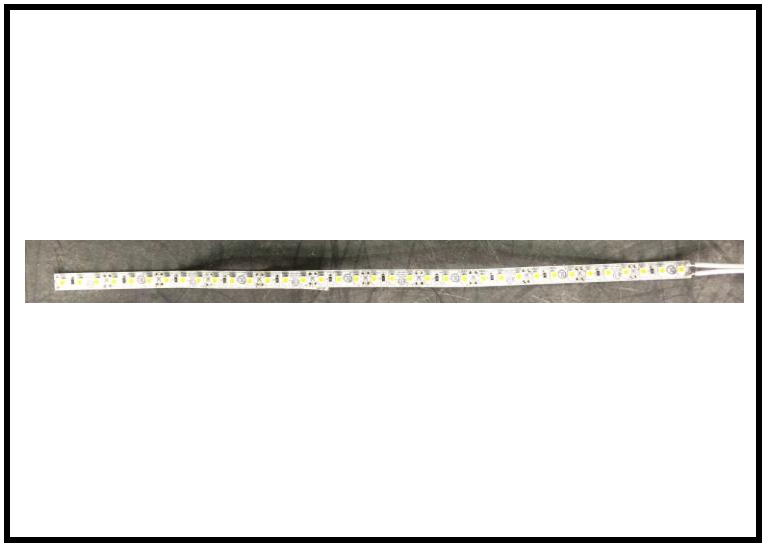
Approved By

Eric Gaudreau, Engineering Project Handler

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

Luminaire Description:	LED strip
Catalog Number:	BLAZE™ 12v LED Tape Light DI-12V-BL38-80XX
Lamp:	36 white LEDs
Mounting:	Surface
Ballast/Driver:	One Meanwell LPV-60-12

Luminaire



Summary of Results

Radiant Flux:	856.4	mW
Luminous Flux:	270.4	Lumens
Luminaire Efficacy:	65.3	Lumens/Watt
CCT:	3812	K
CRI (Ra):	82.7	
Chromaticity (x):	0.3897	
Chromaticity (y):	0.3841	
Chromaticity (u):	0.2282	
Chromaticity (v):	0.3374	
Duv:	0.0005	

Test Conditions

Test Temperature:	24.4	°C
Voltage:	120.0	VAC
Current:	0.08508	A
Power:	4.140	W
Power Factor:	0.406	
Frequency:	60	Hz
Current THD:	189	%

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

Absorption correction was employed for this measurement.

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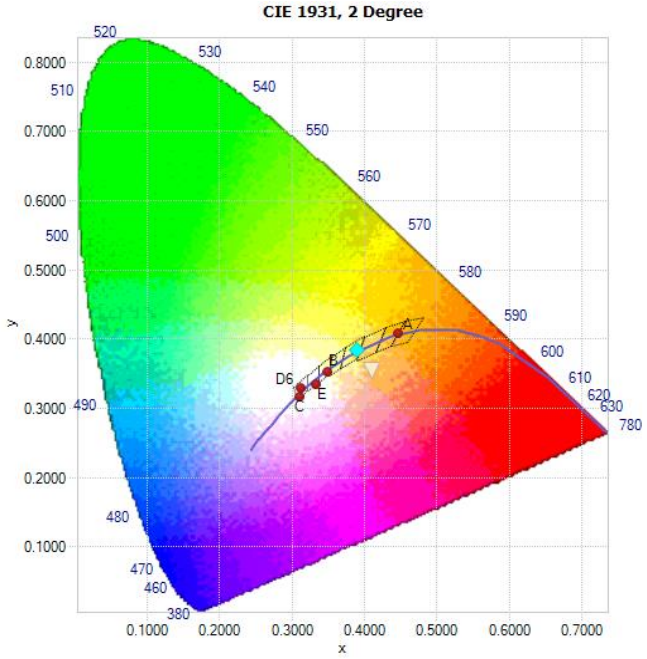
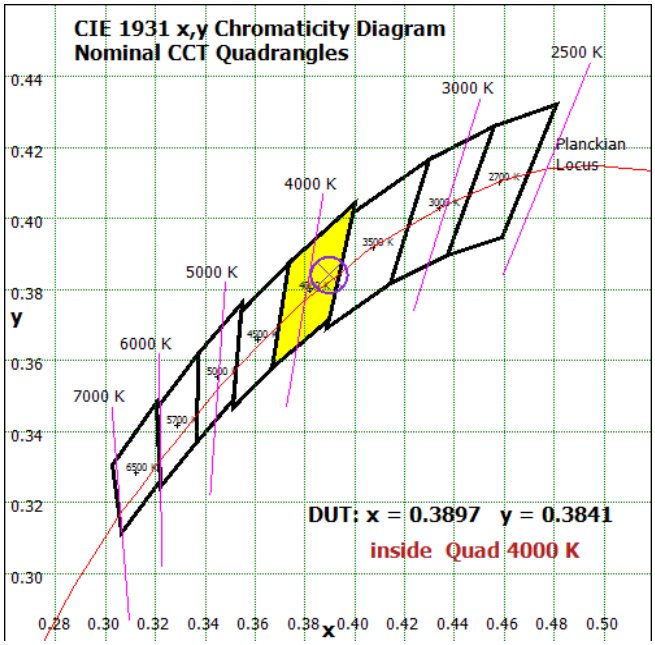
Chromaticity Coordinates

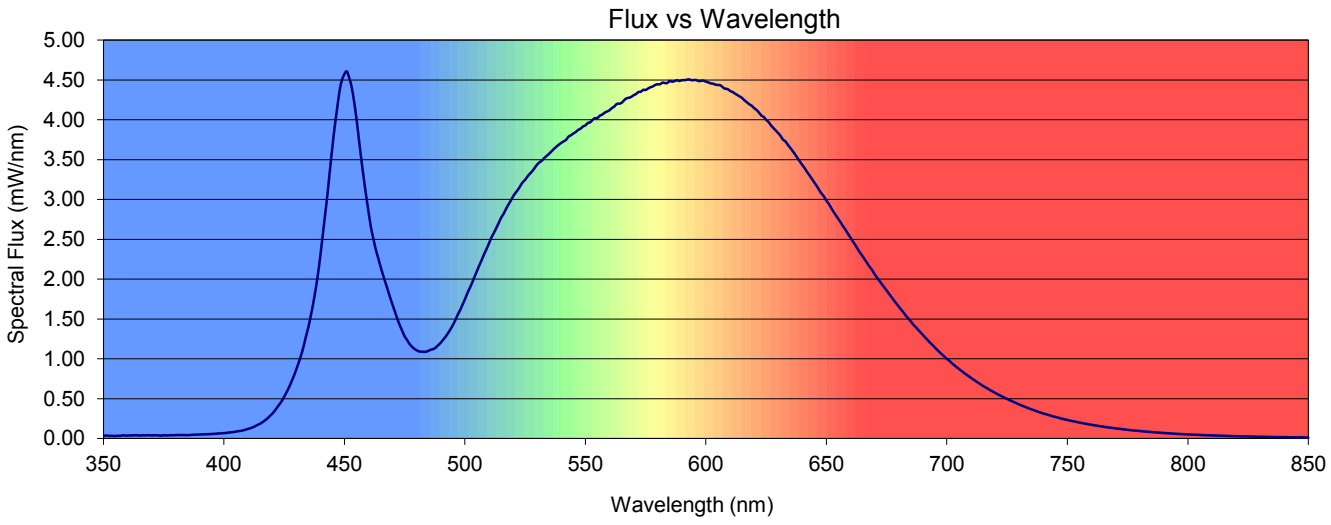
x	y	u	v	u'	v'	Duv
0.3897	0.3841	0.2282	0.3374	0.2282	0.5061	0.0005

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82.7	81.4	86.9	90.1	82.2	80.4	80.8	88.6	70.8	23.5	67.8	79.4	57.2	82.3	94.1







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Spectral Power Distribution

λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm
350	0.0280	422	0.385	494	1.37	566	4.24	638	3.52	710	0.762	782	0.0884
351	0.0382	423	0.427	495	1.42	567	4.27	639	3.48	711	0.740	783	0.0857
352	0.0340	424	0.469	496	1.48	568	4.28	640	3.43	712	0.720	784	0.0835
353	0.0339	425	0.525	497	1.55	569	4.29	641	3.39	713	0.700	785	0.0810
354	0.0327	426	0.581	498	1.61	570	4.31	642	3.34	714	0.679	786	0.0781
355	0.0316	427	0.640	499	1.68	571	4.32	643	3.30	715	0.660	787	0.0759
356	0.0348	428	0.711	500	1.75	572	4.35	644	3.26	716	0.642	788	0.0734
357	0.0342	429	0.783	501	1.82	573	4.35	645	3.21	717	0.625	789	0.0712
358	0.0394	430	0.863	502	1.89	574	4.37	646	3.17	718	0.606	790	0.0696
359	0.0378	431	0.950	503	1.95	575	4.37	647	3.12	719	0.590	791	0.0676
360	0.0370	432	1.04	504	2.03	576	4.39	648	3.07	720	0.574	792	0.0658
361	0.0384	433	1.15	505	2.10	577	4.41	649	3.04	721	0.557	793	0.0637
362	0.0387	434	1.27	506	2.17	578	4.42	650	2.99	722	0.541	794	0.0619
363	0.0407	435	1.39	507	2.24	579	4.44	651	2.94	723	0.526	795	0.0593
364	0.0413	436	1.53	508	2.31	580	4.44	652	2.89	724	0.511	796	0.0576
365	0.0370	437	1.69	509	2.38	581	4.45	653	2.84	725	0.497	797	0.0559
366	0.0403	438	1.86	510	2.45	582	4.47	654	2.80	726	0.482	798	0.0544
367	0.0396	439	2.05	511	2.52	583	4.46	655	2.75	727	0.469	799	0.0533
368	0.0406	440	2.29	512	2.58	584	4.46	656	2.71	728	0.455	800	0.0513
369	0.0417	441	2.55	513	2.64	585	4.49	657	2.66	729	0.441	801	0.0506
370	0.0395	442	2.81	514	2.70	586	4.48	658	2.62	730	0.427	802	0.0483
371	0.0408	443	3.07	515	2.77	587	4.48	659	2.57	731	0.415	803	0.0477
372	0.0406	444	3.37	516	2.82	588	4.50	660	2.52	732	0.403	804	0.0468
373	0.0389	445	3.65	517	2.88	589	4.49	661	2.47	733	0.390	805	0.0447
374	0.0369	446	3.92	518	2.93	590	4.50	662	2.43	734	0.378	806	0.0433
375	0.0398	447	4.14	519	2.98	591	4.50	663	2.38	735	0.368	807	0.0418
376	0.0395	448	4.36	520	3.04	592	4.50	664	2.33	736	0.357	808	0.0408
377	0.0388	449	4.50	521	3.08	593	4.51	665	2.29	737	0.346	809	0.0399
378	0.0420	450	4.57	522	3.12	594	4.50	666	2.24	738	0.334	810	0.0387
379	0.0408	451	4.61	523	3.17	595	4.50	667	2.20	739	0.325	811	0.0380
380	0.0431	452	4.53	524	3.22	596	4.50	668	2.15	740	0.314	812	0.0369
381	0.0437	453	4.41	525	3.25	597	4.49	669	2.11	741	0.305	813	0.0358
382	0.0432	454	4.23	526	3.29	598	4.49	670	2.06	742	0.297	814	0.0350
383	0.0446	455	4.02	527	3.32	599	4.49	671	2.02	743	0.288	815	0.0338
384	0.0426	456	3.76	528	3.36	600	4.48	672	1.98	744	0.278	816	0.0330
385	0.0425	457	3.51	529	3.40	601	4.47	673	1.94	745	0.271	817	0.0313
386	0.0439	458	3.27	530	3.44	602	4.46	674	1.90	746	0.263	818	0.0306
387	0.0465	459	3.05	531	3.47	603	4.45	675	1.86	747	0.254	819	0.0298
388	0.0481	460	2.85	532	3.49	604	4.44	676	1.82	748	0.247	820	0.0289
389	0.0487	461	2.65	533	3.52	605	4.44	677	1.78	749	0.239	821	0.0285
390	0.0504	462	2.51	534	3.55	606	4.43	678	1.73	750	0.233	822	0.0280
391	0.0517	463	2.38	535	3.58	607	4.41	679	1.70	751	0.226	823	0.0272
392	0.0529	464	2.27	536	3.61	608	4.39	680	1.66	752	0.219	824	0.0266
393	0.0541	465	2.16	537	3.64	609	4.38	681	1.62	753	0.214	825	0.0259
394	0.0550	466	2.05	538	3.66	610	4.36	682	1.58	754	0.207	826	0.0244
395	0.0564	467	1.96	539	3.69	611	4.35	683	1.54	755	0.200	827	0.0240
396	0.0591	468	1.87	540	3.71	612	4.33	684	1.51	756	0.195	828	0.0236
397	0.0608	469	1.77	541	3.73	613	4.31	685	1.47	757	0.189	829	0.0228
398	0.0632	470	1.68	542	3.75	614	4.29	686	1.43	758	0.184	830	0.0225
399	0.0658	471	1.59	543	3.79	615	4.27	687	1.40	759	0.177	831	0.0220
400	0.0679	472	1.50	544	3.80	616	4.24	688	1.37	760	0.172	832	0.0210
401	0.0694	473	1.42	545	3.83	617	4.22	689	1.33	761	0.167	833	0.0211
402	0.0754	474	1.35	546	3.85	618	4.19	690	1.30	762	0.163	834	0.0198
403	0.0777	475	1.28	547	3.87	619	4.18	691	1.27	763	0.157	835	0.0197
404	0.0815	476	1.24	548	3.89	620	4.15	692	1.24	764	0.153	836	0.0186
405	0.0868	477	1.19	549	3.92	621	4.12	693	1.20	765	0.148	837	0.0182
406	0.0920	478	1.15	550	3.93	622	4.09	694	1.17	766	0.143	838	0.0181
407	0.0962	479	1.13	551	3.96	623	4.05	695	1.14	767	0.139	839	0.0177
408	0.102	480	1.11	552	3.97	624	4.04	696	1.11	768	0.136	840	0.0176
409	0.111	481	1.09	553	4.00	625	4.00	697	1.08	769	0.132	841	0.0177
410	0.121	482	1.09	554	4.02	626	3.97	698	1.05	770	0.128	842	0.0164
411	0.130	483	1.09	555	4.02	627	3.93	699	1.03	771	0.123	843	0.0160
412	0.140	484	1.09	556	4.05	628	3.90	700	1.00	772	0.120	844	0.0157
413	0.155	485	1.10	557	4.06	629	3.87	701	0.976	773	0.116	845	0.0150
414	0.171	486	1.12	558	4.09	630	3.83	702	0.948	774	0.113	846	0.0149
415	0.185	487	1.12	559	4.10	631	3.80	703	0.921	775	0.109	847	0.0140
416	0.205	488	1.14	560	4.12	632	3.75	704	0.897	776	0.106	848	0.0141
417	0.226	489	1.17	561	4.15	633	3.73	705	0.873	777	0.102	849	0.0135
418	0.250	490	1.20	562	4.17	634	3.69	706	0.850	778	0.0995	850	0.0135
419	0.280	491	1.24	563	4.20	635	3.65	707	0.826	779	0.0966		
420	0.309	492	1.28	564	4.20	636	3.61	708	0.804	780	0.0943		
421	0.345	493	1.32	565	4.21	637	3.57	709	0.783	781	0.0911		

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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-BL38-80XX
Project Number
10460077
Test Number
758922

Test Date

2014-09-19

Prepared By

Javier Caban, Technician

Approved By

Eric Gaudreau, Engineering Project Handler

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

Luminaire Description:	LED strip
Catalog Number:	BLAZE™ 12v LED Tape Light DI-12V-BL38-80XX
Lamp:	36 white LEDs
Mounting:	Surface
Ballast/Driver:	One Meanwell LPV-60-12

Luminaire

Test Conditions

Test Temperature:	24.4	°C
Voltage:	120.0	VAC
Current:	0.08260	A
Power:	4.283	W
Power Factor:	0.432	
Frequency:	60	Hz
Current THD:	181	%

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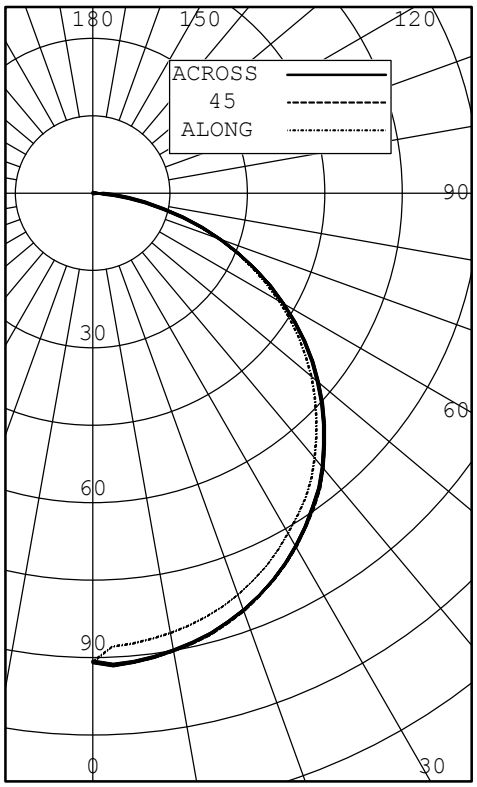

INTENSITY(CANDLEPOWER) SUMMARY

ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	91	91	91	91	91	
5	88	91	91	91	91	9
10	87	90	90	90	90	
15	85	88	89	88	88	25
20	83	86	86	86	86	
25	80	83	83	83	83	38
30	76	79	79	79	79	
35	72	75	75	74	74	46
40	67	69	70	69	69	
45	61	64	64	63	63	49
50	55	57	57	57	57	
55	49	50	50	50	50	45
60	42	43	43	43	43	
65	34	35	35	35	35	34
70	26	27	27	27	26	
75	18	18	18	18	18	19
80	10	11	11	11	10	
85	4	4	4	4	4	5
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	71	26.49
0-40	118	43.67
0-60	211	78.24
0-90	270	100.00
40-90	152	56.33
60-90	59	21.76
90-180	0	0.00
0-180	270	100.00

EFFICACY (LUMENS PER WATT): 62.7

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 12.000 INS
WIDTH: 0.375 INS

LUMINANCE SUMMARY CD./SQ.M.

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

ANGLE	ALONG	45	ACROSS
45	29860	31050	30976
55	29245	30201	30170
65	27670	28422	28430
75	23822	24383	24180
85	15611	17236	16662

TESTED IN ACCORDANCE WITH IES PROCEDURES.

UL Verification Services Inc.
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INTENSITY(CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	LUMENS
0.0	91	91	91	91	91	91	
2.5	88	91	92	92	92	91	
5.0	88	91	91	91	91	91	9
7.5	87	90	91	91	91	90	
10.0	87	90	90	90	90	90	
12.5	86	89	90	89	89	89	
15.0	85	88	89	88	88	88	25
17.5	84	87	87	87	87	87	
20.0	83	86	86	86	86	86	
22.5	81	84	85	84	84	84	
25.0	80	83	83	83	83	82	38
27.5	78	81	81	81	81	81	
30.0	76	79	79	79	79	79	
32.5	74	77	77	77	77	76	
35.0	72	75	75	74	74	74	46
37.5	70	72	72	72	72	72	
40.0	67	69	70	69	69	69	
42.5	64	67	67	66	66	66	
45.0	61	64	64	63	63	63	49
47.5	58	60	60	60	60	60	
50.0	55	57	57	57	57	57	
52.5	52	54	54	54	54	53	
55.0	49	50	50	50	50	50	45
57.5	45	47	46	46	46	46	
60.0	42	43	43	43	43	43	
62.5	38	39	39	39	39	39	
65.0	34	35	35	35	35	35	34
67.5	30	31	31	31	31	31	
70.0	26	27	27	27	26	27	
72.5	22	23	22	22	22	22	
75.0	18	18	18	18	18	18	19
77.5	14	14	14	14	14	14	
80.0	10	11	11	11	10	10	
82.5	7	7	7	7	7	7	
85.0	4	4	4	4	4	4	5
87.5	2	2	2	2	2	2	
90.0	0	0	0	0	0	0	

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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC	90				80				70				50			30			10			0
WALL	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																						
0	1.22	1.22	1.22	1.22	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.12	1.07	1.03	0.99	1.09	1.05	1.01	0.97	1.07	1.03	0.99	0.96	0.98	0.95	0.93	0.95	0.92	0.90	0.91	0.89	0.87	0.85
2	1.03	0.95	0.88	0.82	1.00	0.93	0.86	0.81	0.98	0.91	0.85	0.80	0.87	0.82	0.78	0.84	0.80	0.76	0.81	0.78	0.75	0.73
3	0.94	0.83	0.75	0.68	0.92	0.82	0.74	0.68	0.89	0.80	0.73	0.67	0.77	0.71	0.66	0.75	0.69	0.65	0.72	0.68	0.64	0.62
4	0.87	0.74	0.65	0.59	0.85	0.73	0.65	0.58	0.82	0.72	0.64	0.58	0.69	0.63	0.57	0.67	0.61	0.57	0.65	0.60	0.56	0.54
5	0.80	0.67	0.57	0.50	0.78	0.65	0.57	0.50	0.75	0.64	0.56	0.50	0.62	0.55	0.49	0.60	0.54	0.49	0.58	0.53	0.48	0.46
6	0.73	0.59	0.50	0.44	0.71	0.58	0.50	0.44	0.69	0.57	0.49	0.43	0.56	0.48	0.43	0.54	0.47	0.42	0.52	0.46	0.42	0.40
7	0.67	0.53	0.44	0.38	0.65	0.52	0.44	0.38	0.64	0.51	0.43	0.37	0.50	0.42	0.37	0.48	0.42	0.37	0.47	0.41	0.36	0.34
8	0.62	0.48	0.39	0.33	0.61	0.47	0.39	0.33	0.59	0.46	0.39	0.33	0.45	0.38	0.33	0.44	0.37	0.32	0.43	0.37	0.32	0.30
9	0.58	0.44	0.35	0.29	0.56	0.43	0.35	0.29	0.55	0.42	0.34	0.29	0.41	0.34	0.29	0.40	0.33	0.29	0.39	0.33	0.28	0.27
10	0.53	0.40	0.31	0.26	0.52	0.39	0.31	0.26	0.51	0.38	0.31	0.26	0.37	0.30	0.26	0.37	0.30	0.25	0.36	0.30	0.25	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.

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

Cone of Light

Cone Of Light Tabulation

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	5.70	5.12
6.00	2.53	7.68
8.00	1.43	10.2
10.0	0.912	12.8
12.0	0.633	15.4
14.0	0.465	17.9
16.0	0.356	20.5

Cone of Light Plot