



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
DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB27-80XX

Order Number
10460077
Test Number
758934

Test Date
2014-09-24

Prepared By

Javier Caban

Javier Caban, Technician

Approved By

Eric M. Gaudreau

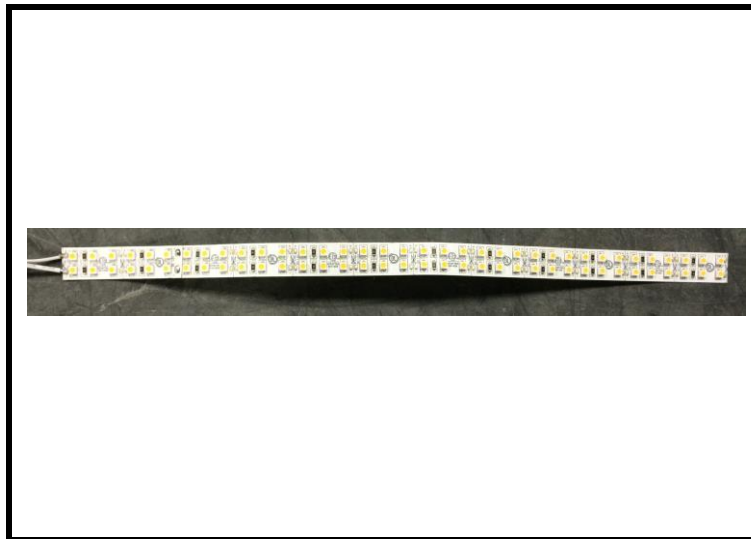
Eric Gaudreau, Engineering Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED strip
Catalog Number: DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB27-80XX
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire



Summary of Results

Radiant Flux:	1751 mW
Luminous Flux:	519.3 Lumens
Luminaire Efficacy:	69.0 Lumens/Watt
CCT:	2624 K
CRI (Ra):	83.6
Chromaticity (x):	0.4592
Chromaticity (y):	0.3999
Chromaticity (u):	0.2669
Chromaticity (v):	0.3487
Duv:	-0.0040

Test Conditions

Test Temperature:	25.5 °C
Voltage:	120.0 VAC
Current:	0.1406 A
Power:	7.530 W
Power Factor:	0.446
Frequency:	60 Hz
Current THD:	188 %

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

Absorption correction was employed for this measurement.

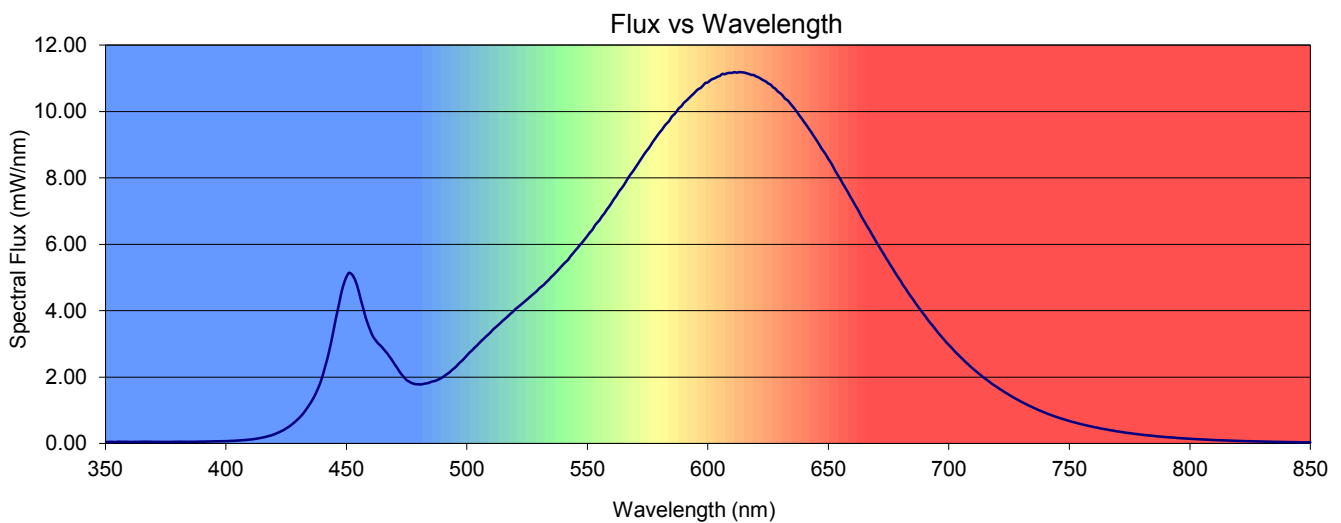
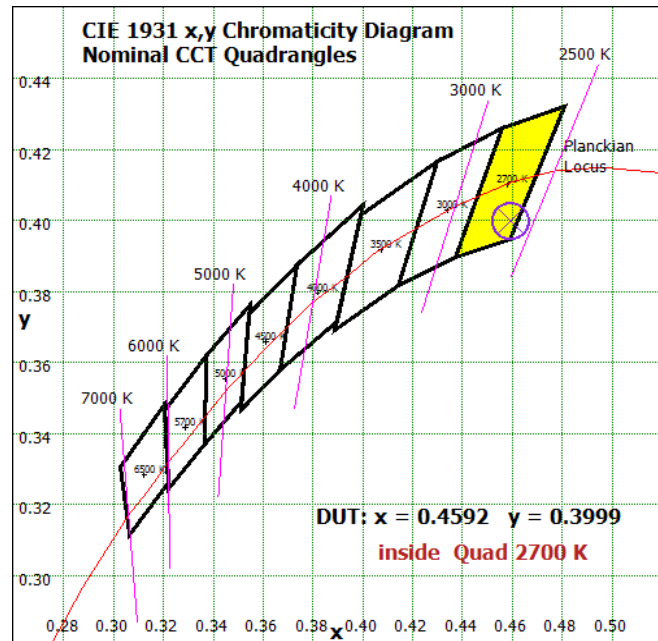
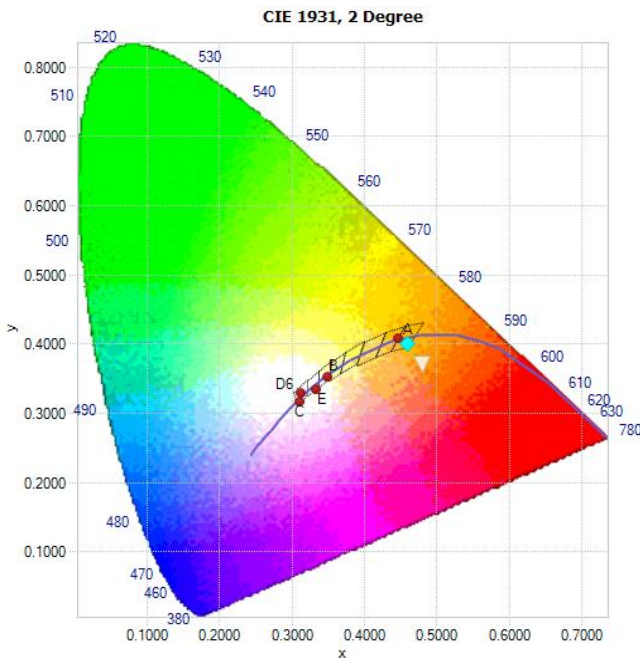


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4592	0.3999	0.2669	0.3487	0.2669	0.5231	-0.0040

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.6	82.4	92.4	95.8	79.4	82.0	90.1	82.9	63.4	24.1	82.1	77.0	76.4	84.6	98.5





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	0.0425	422	0.338	494	2.22	566	7.89	638	9.88	710	2.25	782	0.250
351	0.0471	423	0.373	495	2.28	567	8.01	639	9.78	711	2.19	783	0.243
352	0.0501	424	0.408	496	2.35	568	8.11	640	9.67	712	2.13	784	0.235
353	0.0498	425	0.454	497	2.43	569	8.21	641	9.58	713	2.07	785	0.228
354	0.0441	426	0.499	498	2.49	570	8.32	642	9.47	714	2.01	786	0.220
355	0.0520	427	0.552	499	2.57	571	8.42	643	9.37	715	1.96	787	0.213
356	0.0539	428	0.611	500	2.65	572	8.54	644	9.25	716	1.91	788	0.207
357	0.0500	429	0.673	501	2.73	573	8.65	645	9.14	717	1.85	789	0.201
358	0.0522	430	0.740	502	2.80	574	8.76	646	9.03	718	1.79	790	0.195
359	0.0516	431	0.815	503	2.87	575	8.85	647	8.90	719	1.75	791	0.189
360	0.0483	432	0.896	504	2.94	576	8.95	648	8.80	720	1.70	792	0.185
361	0.0458	433	0.993	505	3.01	577	9.07	649	8.70	721	1.65	793	0.179
362	0.0506	434	1.10	506	3.09	578	9.17	650	8.57	722	1.60	794	0.172
363	0.0492	435	1.21	507	3.16	579	9.27	651	8.46	723	1.55	795	0.166
364	0.0506	436	1.33	508	3.23	580	9.37	652	8.33	724	1.51	796	0.161
365	0.0517	437	1.46	509	3.29	581	9.45	653	8.19	725	1.47	797	0.157
366	0.0559	438	1.62	510	3.36	582	9.56	654	8.08	726	1.42	798	0.153
367	0.0541	439	1.79	511	3.44	583	9.64	655	7.96	727	1.38	799	0.146
368	0.0548	440	2.01	512	3.50	584	9.72	656	7.83	728	1.34	800	0.144
369	0.0531	441	2.27	513	3.57	585	9.84	657	7.71	729	1.30	801	0.139
370	0.0487	442	2.53	514	3.63	586	9.91	658	7.58	730	1.26	802	0.134
371	0.0495	443	2.83	515	3.71	587	9.99	659	7.45	731	1.22	803	0.131
372	0.0496	444	3.16	516	3.77	588	10.1	660	7.33	732	1.19	804	0.127
373	0.0476	445	3.54	517	3.83	589	10.2	661	7.20	733	1.15	805	0.123
374	0.0490	446	3.89	518	3.90	590	10.3	662	7.08	734	1.12	806	0.120
375	0.0486	447	4.22	519	3.96	591	10.3	663	6.94	735	1.08	807	0.116
376	0.0477	448	4.57	520	4.04	592	10.4	664	6.80	736	1.05	808	0.113
377	0.0483	449	4.82	521	4.10	593	10.5	665	6.68	737	1.01	809	0.108
378	0.0487	450	5.02	522	4.15	594	10.5	666	6.55	738	0.985	810	0.105
379	0.0525	451	5.13	523	4.22	595	10.6	667	6.44	739	0.957	811	0.102
380	0.0514	452	5.11	524	4.28	596	10.7	668	6.31	740	0.925	812	0.1000
381	0.0552	453	5.02	525	4.34	597	10.7	669	6.18	741	0.895	813	0.0974
382	0.0518	454	4.85	526	4.40	598	10.8	670	6.06	742	0.869	814	0.0952
383	0.0529	455	4.62	527	4.47	599	10.9	671	5.94	743	0.842	815	0.0914
384	0.0510	456	4.33	528	4.53	600	10.9	672	5.82	744	0.815	816	0.0896
385	0.0518	457	4.07	529	4.59	601	10.9	673	5.70	745	0.792	817	0.0868
386	0.0532	458	3.80	530	4.67	602	11.0	674	5.58	746	0.766	818	0.0834
387	0.0525	459	3.58	531	4.73	603	11.0	675	5.46	747	0.745	819	0.0803
388	0.0535	460	3.40	532	4.79	604	11.0	676	5.34	748	0.723	820	0.0781
389	0.0561	461	3.23	533	4.86	605	11.1	677	5.23	749	0.698	821	0.0769
390	0.0581	462	3.12	534	4.93	606	11.1	678	5.11	750	0.679	822	0.0735
391	0.0559	463	3.03	535	5.01	607	11.1	679	5.00	751	0.657	823	0.0712
392	0.0610	464	2.96	536	5.08	608	11.1	680	4.89	752	0.638	824	0.0705
393	0.0613	465	2.88	537	5.16	609	11.2	681	4.77	753	0.620	825	0.0689
394	0.0629	466	2.79	538	5.23	610	11.2	682	4.67	754	0.600	826	0.0670
395	0.0652	467	2.71	539	5.32	611	11.2	683	4.56	755	0.582	827	0.0641
396	0.0682	468	2.61	540	5.39	612	11.2	684	4.45	756	0.564	828	0.0627
397	0.0669	469	2.50	541	5.47	613	11.2	685	4.35	757	0.548	829	0.0624
398	0.0687	470	2.39	542	5.53	614	11.2	686	4.24	758	0.530	830	0.0596
399	0.0710	471	2.29	543	5.64	615	11.2	687	4.14	759	0.515	831	0.0580
400	0.0710	472	2.17	544	5.72	616	11.2	688	4.04	760	0.498	832	0.0555
401	0.0737	473	2.07	545	5.81	617	11.1	689	3.95	761	0.484	833	0.0551
402	0.0791	474	1.99	546	5.89	618	11.1	690	3.85	762	0.469	834	0.0520
403	0.0802	475	1.91	547	5.99	619	11.1	691	3.75	763	0.453	835	0.0504
404	0.0860	476	1.87	548	6.07	620	11.1	692	3.66	764	0.440	836	0.0490
405	0.0891	477	1.82	549	6.16	621	11.0	693	3.57	765	0.429	837	0.0484
406	0.0956	478	1.80	550	6.25	622	11.0	694	3.48	766	0.415	838	0.0473
407	0.101	479	1.79	551	6.35	623	10.9	695	3.39	767	0.401	839	0.0457
408	0.105	480	1.78	552	6.43	624	10.9	696	3.30	768	0.390	840	0.0451
409	0.113	481	1.78	553	6.55	625	10.8	697	3.21	769	0.376	841	0.0432
410	0.120	482	1.80	554	6.65	626	10.8	698	3.13	770	0.365	842	0.0426
411	0.127	483	1.81	555	6.72	627	10.7	699	3.04	771	0.353	843	0.0418
412	0.138	484	1.82	556	6.84	628	10.7	700	2.97	772	0.342	844	0.0407
413	0.149	485	1.85	557	6.92	629	10.6	701	2.89	773	0.331	845	0.0397
414	0.162	486	1.87	558	7.04	630	10.6	702	2.81	774	0.321	846	0.0373
415	0.176	487	1.89	559	7.13	631	10.5	703	2.73	775	0.312	847	0.0365
416	0.191	488	1.92	560	7.24	632	10.4	704	2.66	776	0.302	848	0.0348
417	0.210	489	1.96	561	7.36	633	10.3	705	2.59	777	0.291	849	0.0358
418	0.230	490	2.00	562	7.45	634	10.3	706	2.52	778	0.284	850	0.0338
419	0.250	491	2.05	563	7.58	635	10.2	707	2.45	779	0.275		
420	0.276	492	2.10	564	7.67	636	10.1	708	2.39	780	0.266		
421	0.305	493	2.16	565	7.77	637	9.98	709	2.32	781	0.257		



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Photometric Indoor Test Report

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Prepared For
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Catalog Number
DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB27-80XX
Project Number
10460077
Test Number
758933

Test Date

2014-09-23

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

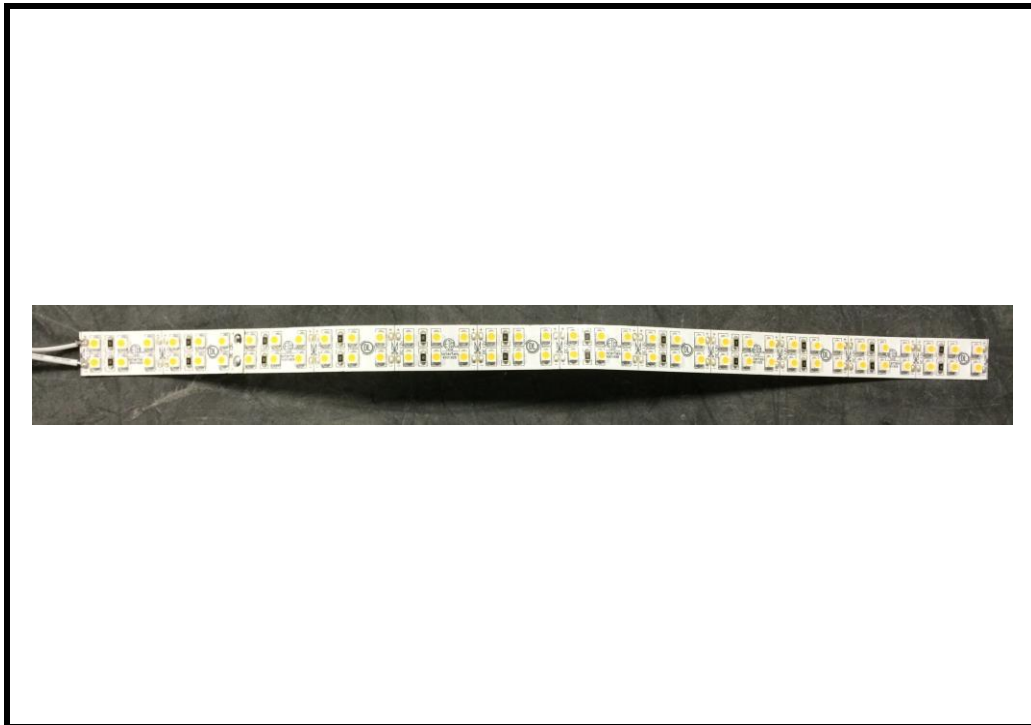
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Luminaire Description: LED strip
Catalog Number: DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB27-80XX
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire

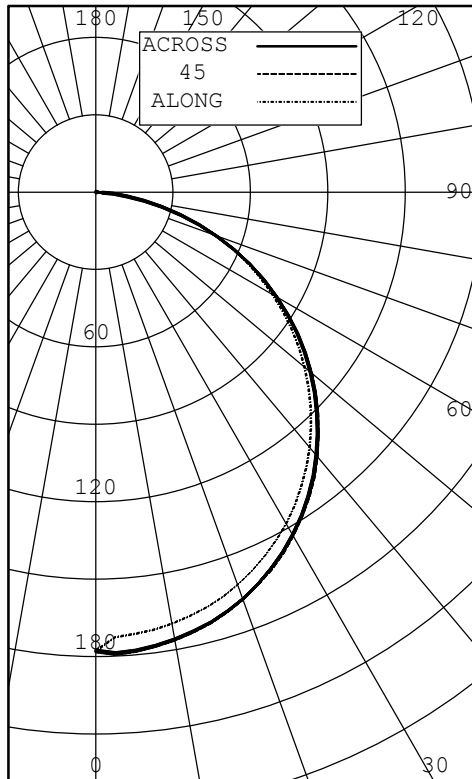


Test Conditions

Test Temperature:	25.0 °C
Voltage:	120.0 VAC
Current:	0.1386 A
Power:	7.784 W
Power Factor:	0.468
Frequency:	60 Hz
Current THD:	179 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	178	178	178	178	178	
5	172	177	179	178	179	17
10	170	175	176	176	176	
15	167	172	173	173	173	48
20	162	167	168	167	168	
25	155	160	161	161	161	74
30	148	153	154	153	153	
35	139	144	144	144	144	89
40	129	133	134	133	133	
45	118	122	122	121	121	93
50	106	109	109	109	109	
55	93	96	96	95	95	85
60	79	81	81	81	81	
65	65	66	66	66	66	65
70	49	51	51	51	50	
75	34	35	35	35	34	36
80	19	20	20	19	19	
85	8	8	8	7	7	9
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	139	26.91
0-40	229	44.20
0-60	407	78.61
0-90	517	100.00
40-90	289	55.80
60-90	111	21.39
90-180	0	0.00
0-180	517	100.00

EFFICACY (LUMENS PER WATT): 66.3

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 12.000 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	43000	44649	44503
55	41773	43221	43086
65	39457	40700	40436
75	33637	34626	34316
85	22231	23030	20679

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	178	178	178	178	178	178	
2.5	173	178	179	179	179	178	
5.0	172	177	179	178	179	177	17
7.5	171	176	178	177	177	176	
10.0	170	175	176	176	176	175	
12.5	168	174	175	175	175	174	
15.0	167	172	173	173	173	172	48
17.5	164	170	171	170	170	169	
20.0	162	167	168	167	168	167	
22.5	159	164	165	164	164	164	
25.0	155	160	161	161	161	160	74
27.5	152	157	158	157	157	157	
30.0	148	153	154	153	153	152	
32.5	144	148	149	148	149	148	
35.0	139	144	144	144	144	143	89
37.5	134	139	139	139	139	138	
40.0	129	133	134	133	133	133	
42.5	123	128	128	127	127	127	
45.0	118	122	122	121	121	121	93
47.5	112	115	116	115	115	115	
50.0	106	109	109	109	109	109	
52.5	99	102	103	102	102	102	
55.0	93	96	96	95	95	95	85
57.5	86	88	88	88	88	88	
60.0	79	81	81	81	81	81	
62.5	72	74	74	74	73	74	
65.0	65	66	66	66	66	66	65
67.5	57	59	59	58	58	58	
70.0	49	51	51	51	50	50	
72.5	41	43	43	43	42	42	
75.0	34	35	35	35	34	34	36
77.5	26	27	27	27	26	27	
80.0	19	20	20	19	19	20	
82.5	13	13	13	13	12	13	
85.0	8	8	8	7	7	8	9
87.5	3	4	4	3	3	3	
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	.061	.06	1.021	.021	.021	.02	1.00
	1	1.121	.071	.030	.99	1.091	.051	.010	.97	1.071	.030	.990	.96	0.980	.950	.93	0.940	.920	.90	0.910	.890	.87	0.85			
	2	1.030	.950	.880	.82	1.000	.930	.860	.81	0.980	.910	.850	.80	0.870	.820	.78	0.840	.800	.76	0.810	.780	.75	0.72			
	3	0.940	.830	.750	.68	0.920	.820	.740	.68	0.890	.800	.730	.67	0.770	.710	.66	0.750	.690	.65	0.720	.680	.64	0.62			
	4	0.870	.740	.650	.59	0.850	.730	.650	.58	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	0.750	.640	.560	.50	0.620	.550	.49	0.600	.540	.49	0.580	.530	.48	0.46			
	6	0.740	.590	.500	.44	0.720	.580	.500	.44	0.690	.570	.490	.43	0.560	.480	.43	0.540	.470	.42	0.520	.470	.42	0.40			
	7	0.670	.530	.440	.38	0.660	.520	.440	.38	0.640	.510	.430	.37	0.500	.420	.37	0.480	.420	.37	0.470	.410	.36	0.35			
	8	0.620	.480	.390	.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	.300	.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	11.2	5.08
6.00	4.96	7.62
8.00	2.79	10.2
10.0	1.79	12.7
12.0	1.24	15.2
14.0	0.911	17.8
16.0	0.698	20.3

Cone of Light Plot

