



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-DB30-80XX

Order Number
10460077
Test Number
758936

Test Date
2014-09-24

Prepared By

Javier Caban

Javier Caban, Technician

Approved By

Eric M. Gaudreau

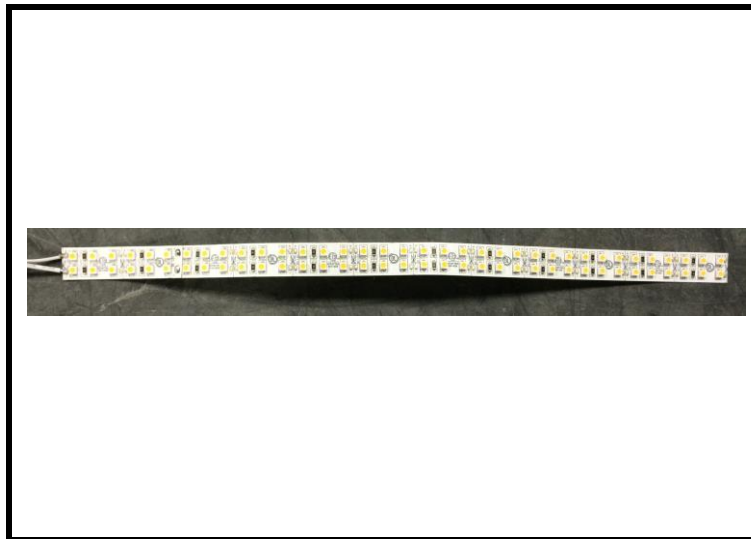
Eric Gaudreau, Engineering Project Handler

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-DB30-80XX
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire



Summary of Results

Radiant Flux:	1690 mW
Luminous Flux:	548.7 Lumens
Luminaire Efficacy:	71.1 Lumens/Watt
CCT:	3019 K
CRI (Ra):	81.1
Chromaticity (x):	0.4351
Chromaticity (y):	0.4028
Chromaticity (u):	0.2499
Chromaticity (v):	0.3471
Duv:	-0.0003

Test Conditions

Test Temperature:	25.1 °C
Voltage:	120.0 VAC
Current:	0.1440 A
Power:	7.714 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.

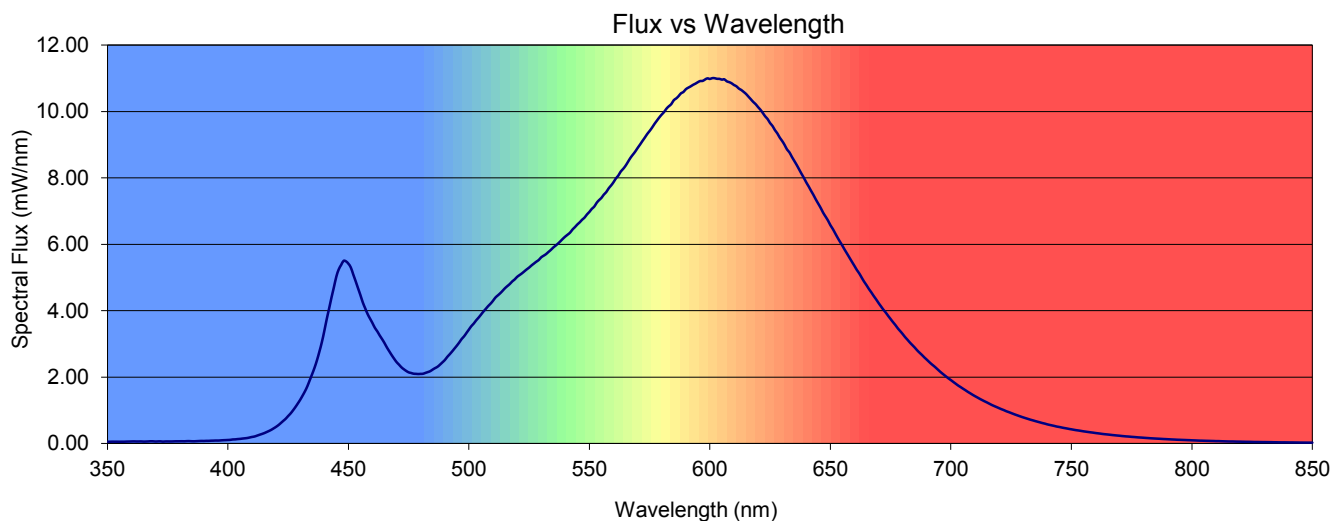
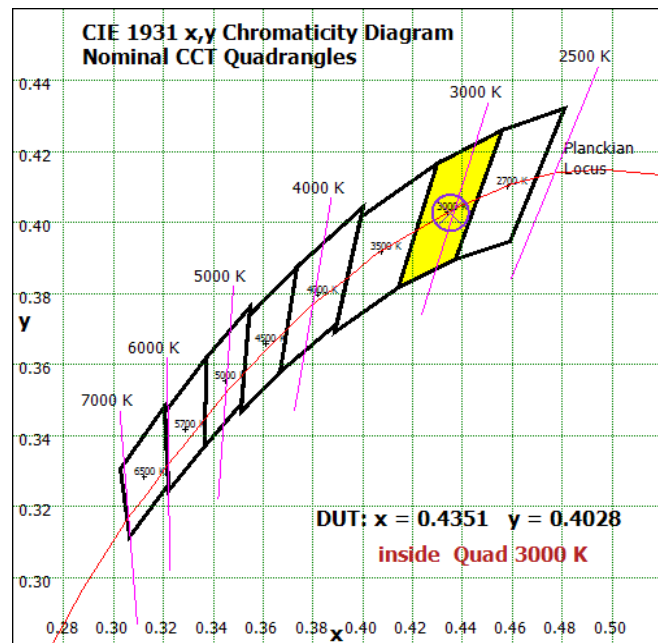
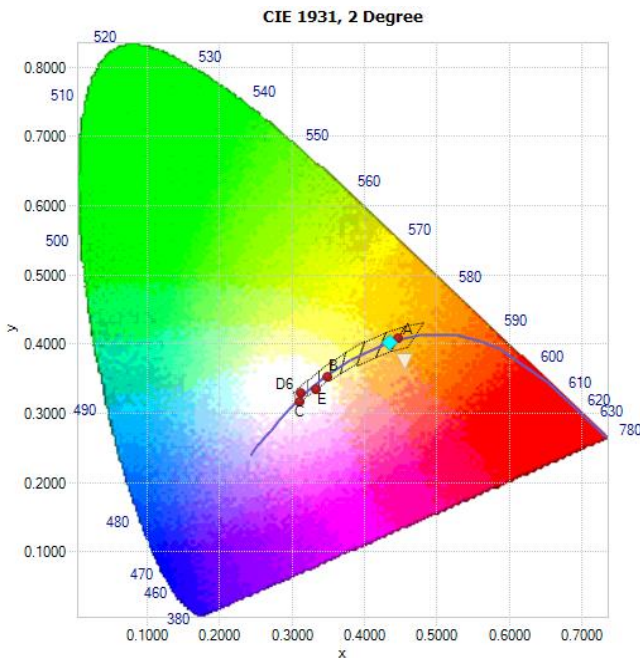


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4351	0.4028	0.2499	0.3471	0.2499	0.5206	-0.0003

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81.1	78.9	89.2	96.4	78.6	79.0	86.2	82.7	58.1	4.3	75.4	76.8	69.7	81.1	98.4





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	0.0514	422	0.618	494	2.86	566	8.48	638	8.13	710	1.43	782	0.163
351	0.0528	423	0.683	495	2.95	567	8.60	639	8.00	711	1.39	783	0.157
352	0.0557	424	0.747	496	3.04	568	8.69	640	7.86	712	1.35	784	0.153
353	0.0547	425	0.827	497	3.15	569	8.79	641	7.74	713	1.31	785	0.149
354	0.0549	426	0.904	498	3.23	570	8.90	642	7.61	714	1.27	786	0.145
355	0.0540	427	0.997	499	3.33	571	9.00	643	7.48	715	1.24	787	0.141
356	0.0546	428	1.10	500	3.43	572	9.11	644	7.34	716	1.20	788	0.137
357	0.0546	429	1.20	501	3.53	573	9.21	645	7.22	717	1.16	789	0.133
358	0.0579	430	1.32	502	3.61	574	9.32	646	7.09	718	1.13	790	0.129
359	0.0593	431	1.44	503	3.71	575	9.41	647	6.95	719	1.10	791	0.125
360	0.0621	432	1.58	504	3.79	576	9.51	648	6.83	720	1.06	792	0.121
361	0.0636	433	1.73	505	3.88	577	9.62	649	6.72	721	1.03	793	0.118
362	0.0611	434	1.91	506	3.97	578	9.72	650	6.58	722	1.01	794	0.114
363	0.0611	435	2.10	507	4.05	579	9.82	651	6.46	723	0.973	795	0.111
364	0.0629	436	2.29	508	4.14	580	9.91	652	6.33	724	0.947	796	0.108
365	0.0575	437	2.52	509	4.21	581	9.98	653	6.20	725	0.918	797	0.106
366	0.0591	438	2.78	510	4.30	582	10.1	654	6.08	726	0.890	798	0.102
367	0.0629	439	3.05	511	4.39	583	10.2	655	5.96	727	0.863	799	0.100
368	0.0675	440	3.39	512	4.46	584	10.2	656	5.83	728	0.838	800	0.0964
369	0.0656	441	3.74	513	4.53	585	10.3	657	5.71	729	0.812	801	0.0938
370	0.0599	442	4.07	514	4.60	586	10.4	658	5.59	730	0.787	802	0.0905
371	0.0631	443	4.40	515	4.68	587	10.5	659	5.47	731	0.764	803	0.0871
372	0.0650	444	4.71	516	4.74	588	10.5	660	5.35	732	0.741	804	0.0855
373	0.0569	445	5.03	517	4.80	589	10.6	661	5.23	733	0.718	805	0.0836
374	0.0621	446	5.24	518	4.88	590	10.7	662	5.12	734	0.698	806	0.0811
375	0.0622	447	5.38	519	4.94	591	10.7	663	5.00	735	0.676	807	0.0794
376	0.0618	448	5.50	520	5.02	592	10.8	664	4.87	736	0.656	808	0.0768
377	0.0626	449	5.49	521	5.07	593	10.8	665	4.77	737	0.637	809	0.0753
378	0.0659	450	5.41	522	5.12	594	10.8	666	4.65	738	0.616	810	0.0726
379	0.0667	451	5.30	523	5.18	595	10.9	667	4.55	739	0.599	811	0.0720
380	0.0671	452	5.10	524	5.24	596	10.9	668	4.44	740	0.577	812	0.0694
381	0.0683	453	4.89	525	5.30	597	10.9	669	4.34	741	0.560	813	0.0665
382	0.0666	454	4.68	526	5.36	598	11.0	670	4.23	742	0.544	814	0.0646
383	0.0713	455	4.47	527	5.42	599	11.0	671	4.13	743	0.528	815	0.0621
384	0.0723	456	4.24	528	5.48	600	11.0	672	4.03	744	0.510	816	0.0611
385	0.0684	457	4.07	529	5.53	601	11.0	673	3.94	745	0.498	817	0.0608
386	0.0667	458	3.89	530	5.61	602	11.0	674	3.84	746	0.482	818	0.0586
387	0.0710	459	3.76	531	5.65	603	11.0	675	3.75	747	0.468	819	0.0569
388	0.0744	460	3.63	532	5.70	604	11.0	676	3.65	748	0.455	820	0.0560
389	0.0780	461	3.48	533	5.77	605	11.0	677	3.57	749	0.440	821	0.0541
390	0.0764	462	3.38	534	5.83	606	11.0	678	3.47	750	0.428	822	0.0522
391	0.0802	463	3.25	535	5.90	607	10.9	679	3.38	751	0.414	823	0.0510
392	0.0801	464	3.14	536	5.96	608	10.9	680	3.30	752	0.402	824	0.0505
393	0.0852	465	3.02	537	6.02	609	10.8	681	3.21	753	0.392	825	0.0480
394	0.0866	466	2.89	538	6.09	610	10.8	682	3.12	754	0.380	826	0.0461
395	0.0901	467	2.77	539	6.17	611	10.8	683	3.04	755	0.367	827	0.0456
396	0.0893	468	2.66	540	6.23	612	10.7	684	2.97	756	0.357	828	0.0449
397	0.0942	469	2.55	541	6.29	613	10.6	685	2.89	757	0.347	829	0.0432
398	0.0989	470	2.45	542	6.35	614	10.6	686	2.81	758	0.337	830	0.0426
399	0.102	471	2.38	543	6.44	615	10.5	687	2.74	759	0.327	831	0.0419
400	0.106	472	2.30	544	6.52	616	10.4	688	2.67	760	0.316	832	0.0412
401	0.110	473	2.24	545	6.60	617	10.4	689	2.59	761	0.307	833	0.0399
402	0.122	474	2.19	546	6.66	618	10.3	690	2.53	762	0.298	834	0.0377
403	0.125	475	2.14	547	6.74	619	10.2	691	2.46	763	0.287	835	0.0371
404	0.134	476	2.13	548	6.80	620	10.1	692	2.39	764	0.279	836	0.0356
405	0.139	477	2.10	549	6.90	621	10.1	693	2.33	765	0.272	837	0.0343
406	0.148	478	2.10	550	6.97	622	9.95	694	2.27	766	0.265	838	0.0342
407	0.157	479	2.09	551	7.07	623	9.85	695	2.20	767	0.255	839	0.0340
408	0.165	480	2.10	552	7.13	624	9.77	696	2.14	768	0.248	840	0.0325
409	0.181	481	2.10	553	7.25	625	9.65	697	2.08	769	0.241	841	0.0322
410	0.197	482	2.13	554	7.33	626	9.56	698	2.02	770	0.235	842	0.0317
411	0.210	483	2.15	555	7.40	627	9.44	699	1.96	771	0.226	843	0.0303
412	0.234	484	2.18	556	7.50	628	9.34	700	1.91	772	0.219	844	0.0297
413	0.260	485	2.23	557	7.57	629	9.21	701	1.85	773	0.213	845	0.0281
414	0.284	486	2.27	558	7.68	630	9.11	702	1.80	774	0.208	846	0.0277
415	0.311	487	2.31	559	7.77	631	8.99	703	1.75	775	0.201	847	0.0273
416	0.343	488	2.38	560	7.87	632	8.86	704	1.70	776	0.196	848	0.0267
417	0.376	489	2.44	561	7.98	633	8.77	705	1.65	777	0.189	849	0.0267
418	0.413	490	2.51	562	8.07	634	8.64	706	1.61	778	0.183	850	0.0262
419	0.457	491	2.61	563	8.19	635	8.51	707	1.56	779	0.179		
420	0.503	492	2.68	564	8.27	636	8.39	708	1.51	780	0.173		
421	0.556	493	2.77	565	8.36	637	8.26	709	1.47	781	0.168		



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Photometric Indoor Test Report

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Prepared For
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Suite 211, 1195 Park Ave.
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DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB30-80XX
Project Number
10460077
Test Number
758935

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

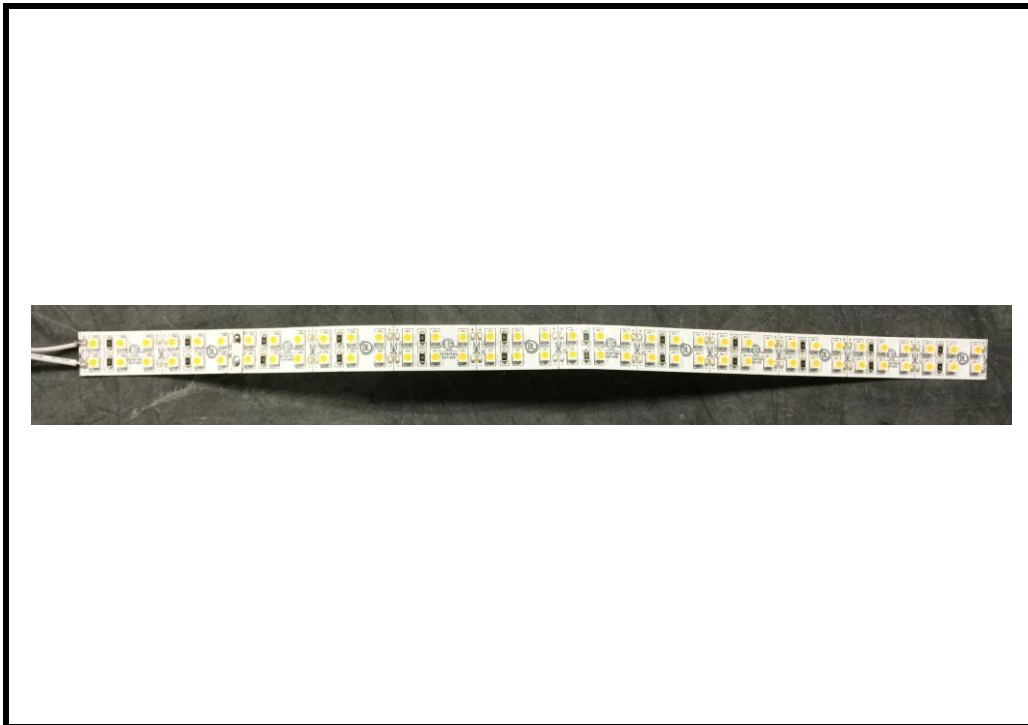
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Luminaire Description: LED strip
Catalog Number: DOUBLE BLAZE™ 12v LED Tape Light DI-12V-DB30-80XX
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire

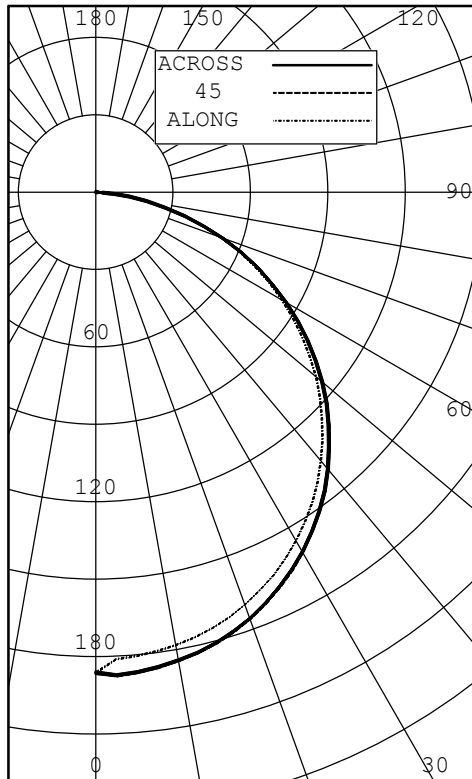


Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.0 VAC
Current:	0.1402 A
Power:	7.896 W
Power Factor:	0.469
Frequency:	60 Hz
Current THD:	179 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	186	186	186	186	186	
5	181	186	187	187	187	18
10	178	183	185	184	184	
15	175	180	181	181	181	51
20	170	175	176	176	176	
25	164	168	169	169	169	77
30	156	160	161	161	161	
35	147	151	151	151	151	94
40	136	140	140	140	140	
45	124	128	128	128	128	98
50	111	115	115	115	114	
55	98	101	100	100	100	89
60	83	85	85	85	85	
65	68	70	70	70	69	68
70	52	53	53	53	53	
75	35	36	36	36	36	38
80	20	21	20	20	20	
85	8	8	8	8	7	9
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	146	26.88
0-40	240	44.19
0-60	427	78.66
0-90	543	100.00
40-90	303	55.81
60-90	116	21.34
90-180	0	0.00
0-180	543	100.00

EFFICACY (LUMENS PER WATT): 68.7

*** 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	45265	46886	46813
55	43958	45391	45278
65	41505	42633	42614
75	35333	35975	35819
85	22972	23328	22167

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	186	186	186	186	186	186	
2.5	181	186	188	187	188	186	
5.0	181	186	187	187	187	186	18
7.5	180	185	186	186	186	185	
10.0	178	183	185	184	184	183	
12.5	177	182	183	183	183	182	
15.0	175	180	181	181	181	180	51
17.5	173	178	179	178	178	178	
20.0	170	175	176	176	176	175	
22.5	167	172	173	172	172	172	
25.0	164	168	169	169	169	168	77
27.5	160	165	165	165	165	164	
30.0	156	160	161	161	161	160	
32.5	151	156	156	156	156	155	
35.0	147	151	151	151	151	151	94
37.5	141	146	146	146	146	145	
40.0	136	140	140	140	140	139	
42.5	130	134	134	134	134	133	
45.0	124	128	128	128	128	127	98
47.5	118	121	121	121	121	121	
50.0	111	115	115	115	114	114	
52.5	105	108	108	108	107	107	
55.0	98	101	100	100	100	100	89
57.5	90	93	93	93	93	93	
60.0	83	85	85	85	85	85	
62.5	76	77	77	77	77	77	
65.0	68	70	70	70	69	69	68
67.5	60	61	61	62	61	61	
70.0	52	53	53	53	53	53	
72.5	44	45	44	45	44	44	
75.0	35	36	36	36	36	36	38
77.5	27	28	28	28	28	28	
80.0	20	21	20	20	20	20	
82.5	13	14	14	13	13	14	
85.0	8	8	8	8	7	8	9
87.5	3	4	3	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	0.950	.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	0.73			
	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	.740	.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	.34	0.610	.470	.390	.33	0.590	.470	.390	.33	0.450	.380	.33	0.440	.370	.33	0.430	.370	.32	0.31			
	9	0.580	.440	.350	.29	0.560	.430	.350	.29	0.550	.430	.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	11.7	5.09
6.00	5.20	7.63
8.00	2.92	10.2
10.0	1.87	12.7
12.0	1.30	15.3
14.0	0.954	17.8
16.0	0.731	20.4

Cone of Light Plot

