



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-BL27-80XX

Order Number
10460077
Test Number
758917

Test Date
2015-01-21

Prepared By

Javier Caban

Javier Caban, Technician

Approved By

Eric M. Gaudreau

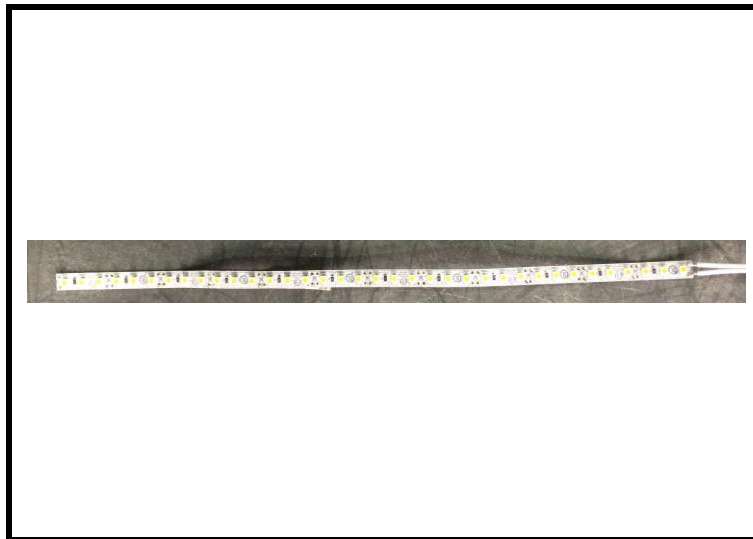
Eric Gaudreau, Engineering Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: LED strip
Catalog Number: BLAZE™ 12v LED Tape Light DI-12V-BL27-80XX
Lamp: 36 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire



Summary of Results

Radiant Flux: 896.4 mW
Luminous Flux: 267.8 Lumens
Luminaire Efficacy: 83.7 Lumens/Watt
CCT: 2598 K
CRI (Ra): 82.8
Chromaticity (x): 0.4635
Chromaticity (y): 0.4041
Chromaticity (u): 0.2678
Chromaticity (v): 0.3503
Duv: -0.0028

Test Conditions

Test Temperature: 25.1 °C
Voltage: 12.00 VDC
Current: 0.2660 A
Power: 3.200 W

Testing was performed in a 2-meter integrating sphere using the 4 π geometry method.

Absorption correction was employed for this measurement.

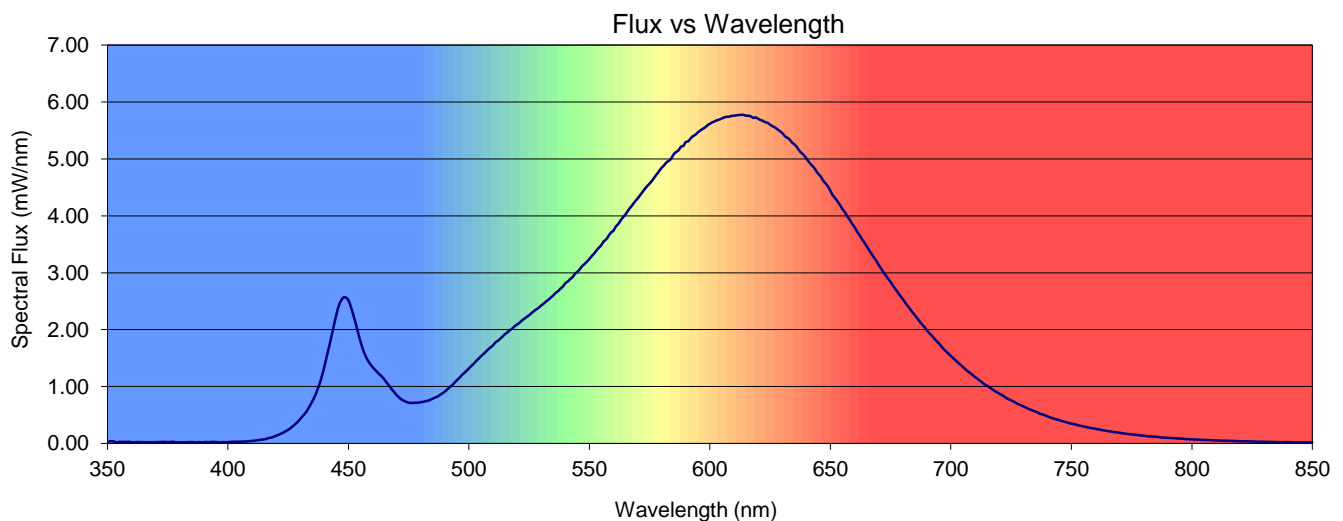
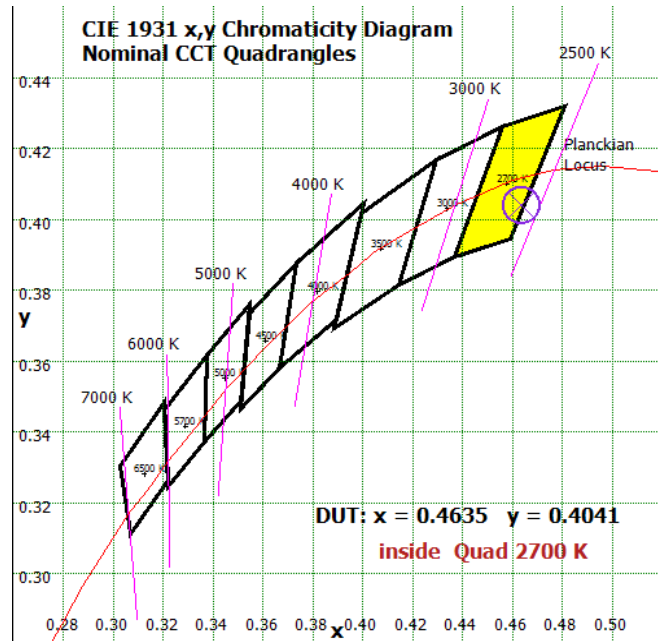
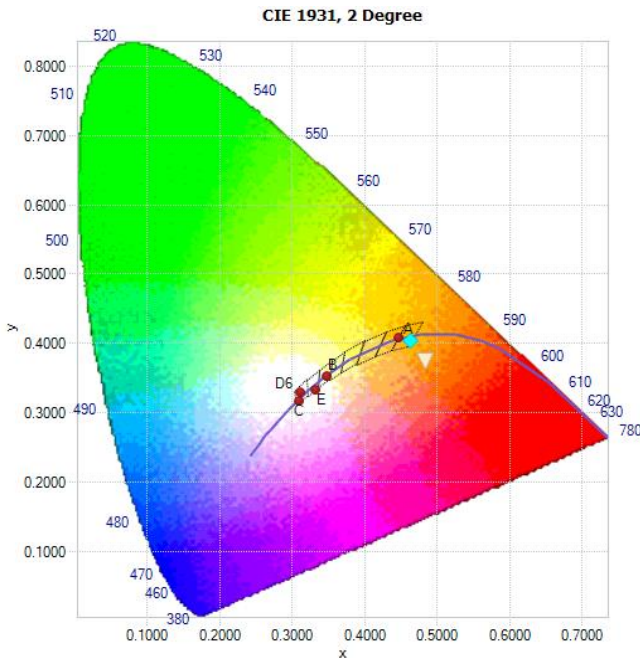


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4635	0.4041	0.2678	0.3503	0.2678	0.5254	-0.0028

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82.8	81.2	90.6	96.5	79.4	80.5	87.6	83.6	63.0	21.7	78.1	77.1	72.9	83.0	98.3





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	0.0251	422	0.172	494	1.07	566	4.09	638	5.10	710	1.17	782	0.128
351	0.0386	423	0.192	495	1.11	567	4.14	639	5.07	711	1.14	783	0.125
352	0.0399	424	0.217	496	1.15	568	4.20	640	5.01	712	1.11	784	0.121
353	0.0316	425	0.240	497	1.20	569	4.26	641	4.95	713	1.07	785	0.119
354	0.0174	426	0.271	498	1.24	570	4.30	642	4.90	714	1.04	786	0.116
355	0.0317	427	0.306	499	1.28	571	4.36	643	4.86	715	1.02	787	0.108
356	0.0261	428	0.342	500	1.32	572	4.42	644	4.80	716	0.989	788	0.104
357	0.0295	429	0.384	501	1.36	573	4.47	645	4.74	717	0.956	789	0.102
358	0.0277	430	0.429	502	1.40	574	4.52	646	4.69	718	0.930	790	0.0994
359	0.0317	431	0.481	503	1.45	575	4.57	647	4.62	719	0.902	791	0.0988
360	0.0239	432	0.527	504	1.49	576	4.62	648	4.57	720	0.880	792	0.0946
361	0.0224	433	0.587	505	1.53	577	4.68	649	4.51	721	0.854	793	0.0923
362	0.0254	434	0.661	506	1.57	578	4.73	650	4.44	722	0.830	794	0.0894
363	0.0261	435	0.740	507	1.61	579	4.79	651	4.36	723	0.800	795	0.0864
364	0.0226	436	0.823	508	1.65	580	4.85	652	4.31	724	0.778	796	0.0845
365	0.0252	437	0.929	509	1.69	581	4.89	653	4.25	725	0.759	797	0.0797
366	0.0222	438	1.04	510	1.72	582	4.94	654	4.19	726	0.737	798	0.0768
367	0.0230	439	1.18	511	1.78	583	4.97	655	4.12	727	0.713	799	0.0761
368	0.0224	440	1.34	512	1.80	584	5.01	656	4.06	728	0.692	800	0.0730
369	0.0227	441	1.53	513	1.84	585	5.08	657	3.99	729	0.674	801	0.0708
370	0.0250	442	1.70	514	1.88	586	5.12	658	3.93	730	0.654	802	0.0689
371	0.0251	443	1.89	515	1.92	587	5.15	659	3.86	731	0.635	803	0.0674
372	0.0261	444	2.08	516	1.95	588	5.21	660	3.81	732	0.613	804	0.0637
373	0.0298	445	2.26	517	1.99	589	5.23	661	3.73	733	0.595	805	0.0625
374	0.0263	446	2.42	518	2.02	590	5.30	662	3.67	734	0.579	806	0.0617
375	0.0271	447	2.51	519	2.06	591	5.31	663	3.60	735	0.562	807	0.0594
376	0.0262	448	2.57	520	2.09	592	5.36	664	3.54	736	0.546	808	0.0590
377	0.0320	449	2.56	521	2.12	593	5.40	665	3.47	737	0.522	809	0.0558
378	0.0243	450	2.52	522	2.16	594	5.42	666	3.40	738	0.512	810	0.0532
379	0.0198	451	2.40	523	2.19	595	5.47	667	3.34	739	0.495	811	0.0526
380	0.0236	452	2.26	524	2.22	596	5.50	668	3.27	740	0.480	812	0.0517
381	0.0216	453	2.11	525	2.25	597	5.53	669	3.21	741	0.461	813	0.0488
382	0.0211	454	1.95	526	2.29	598	5.55	670	3.14	742	0.447	814	0.0480
383	0.0236	455	1.80	527	2.33	599	5.59	671	3.08	743	0.434	815	0.0472
384	0.0254	456	1.66	528	2.36	600	5.62	672	3.01	744	0.422	816	0.0453
385	0.0252	457	1.55	529	2.39	601	5.64	673	2.95	745	0.411	817	0.0447
386	0.0238	458	1.46	530	2.43	602	5.66	674	2.89	746	0.396	818	0.0428
387	0.0194	459	1.40	531	2.46	603	5.68	675	2.84	747	0.386	819	0.0409
388	0.0251	460	1.35	532	2.49	604	5.69	676	2.77	748	0.374	820	0.0406
389	0.0208	461	1.30	533	2.53	605	5.71	677	2.71	749	0.360	821	0.0397
390	0.0226	462	1.25	534	2.57	606	5.73	678	2.65	750	0.350	822	0.0382
391	0.0278	463	1.21	535	2.60	607	5.74	679	2.59	751	0.341	823	0.0382
392	0.0226	464	1.17	536	2.65	608	5.74	680	2.54	752	0.332	824	0.0382
393	0.0281	465	1.12	537	2.68	609	5.76	681	2.48	753	0.319	825	0.0344
394	0.0285	466	1.06	538	2.72	610	5.76	682	2.42	754	0.310	826	0.0350
395	0.0266	467	1.01	539	2.76	611	5.77	683	2.37	755	0.300	827	0.0321
396	0.0225	468	0.952	540	2.81	612	5.77	684	2.31	756	0.290	828	0.0307
397	0.0231	469	0.902	541	2.84	613	5.77	685	2.26	757	0.282	829	0.0321
398	0.0262	470	0.851	542	2.89	614	5.77	686	2.20	758	0.273	830	0.0315
399	0.0225	471	0.812	543	2.92	615	5.76	687	2.15	759	0.266	831	0.0294
400	0.0251	472	0.774	544	2.98	616	5.76	688	2.09	760	0.258	832	0.0293
401	0.0274	473	0.752	545	3.01	617	5.75	689	2.05	761	0.250	833	0.0276
402	0.0306	474	0.732	546	3.06	618	5.72	690	1.99	762	0.244	834	0.0270
403	0.0307	475	0.716	547	3.12	619	5.73	691	1.94	763	0.233	835	0.0256
404	0.0303	476	0.714	548	3.15	620	5.71	692	1.90	764	0.226	836	0.0242
405	0.0334	477	0.713	549	3.20	621	5.68	693	1.85	765	0.220	837	0.0236
406	0.0333	478	0.716	550	3.24	622	5.67	694	1.80	766	0.214	838	0.0234
407	0.0354	479	0.718	551	3.29	623	5.64	695	1.76	767	0.206	839	0.0246
408	0.0370	480	0.726	552	3.34	624	5.63	696	1.71	768	0.198	840	0.0255
409	0.0412	481	0.731	553	3.40	625	5.60	697	1.66	769	0.195	841	0.0235
410	0.0469	482	0.744	554	3.44	626	5.57	698	1.62	770	0.188	842	0.0223
411	0.0480	483	0.751	555	3.49	627	5.55	699	1.58	771	0.180	843	0.0207
412	0.0563	484	0.769	556	3.55	628	5.52	700	1.54	772	0.175	844	0.0201
413	0.0621	485	0.787	557	3.59	629	5.49	701	1.50	773	0.169	845	0.0202
414	0.0661	486	0.808	558	3.65	630	5.46	702	1.46	774	0.165	846	0.0188
415	0.0740	487	0.824	559	3.71	631	5.41	703	1.42	775	0.160	847	0.0195
416	0.0812	488	0.854	560	3.74	632	5.37	704	1.38	776	0.155	848	0.0201
417	0.0973	489	0.882	561	3.81	633	5.35	705	1.34	777	0.151	849	0.0198
418	0.103	490	0.911	562	3.86	634	5.29	706	1.31	778	0.147	850	0.0180
419	0.121	491	0.950	563	3.92	635	5.26	707	1.27	779	0.141		
420	0.135	492	0.989	564	3.98	636	5.21	708	1.24	780	0.137		
421	0.154	493	1.02	565	4.02	637	5.15	709	1.21	781	0.132		



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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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Catalog Number
BLAZE™ 12v LED Tape Light DI-12V-BL27-80XX
Project Number
10460077
Test Number
758916

Test Date

2015-01-21

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

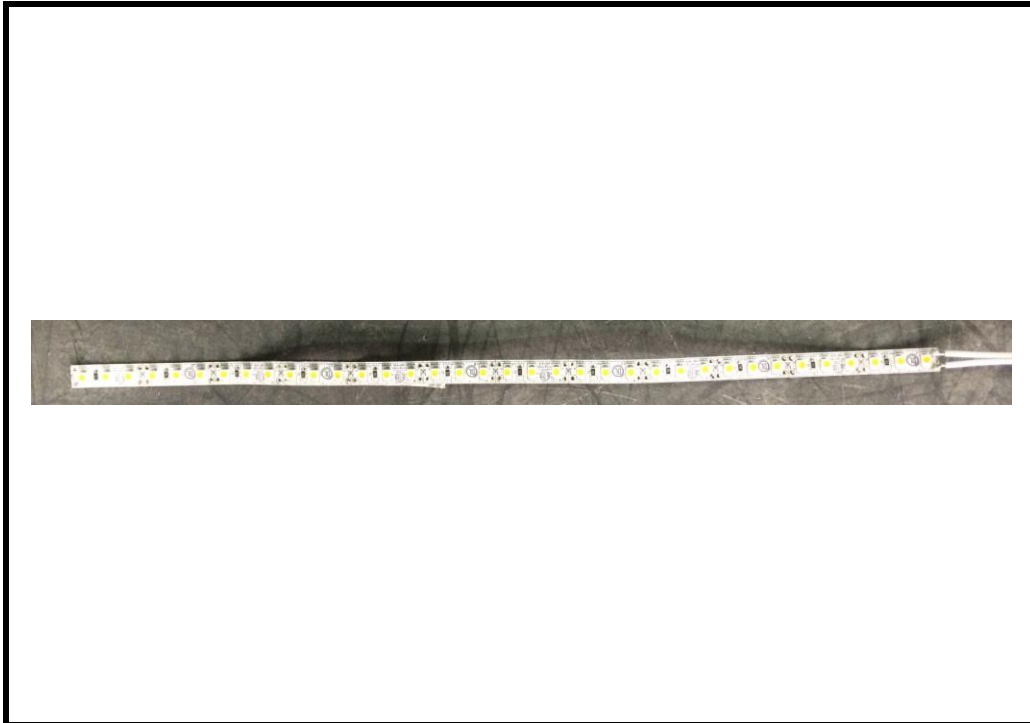
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Luminaire Description: LED strip
Catalog Number: BLAZE™ 12v LED Tape Light DI-12V-BL27-80XX
Lamp: 36 white LEDs
Mounting: Surface
Ballast/Driver: One Meanwell LPV-60-12

Luminaire

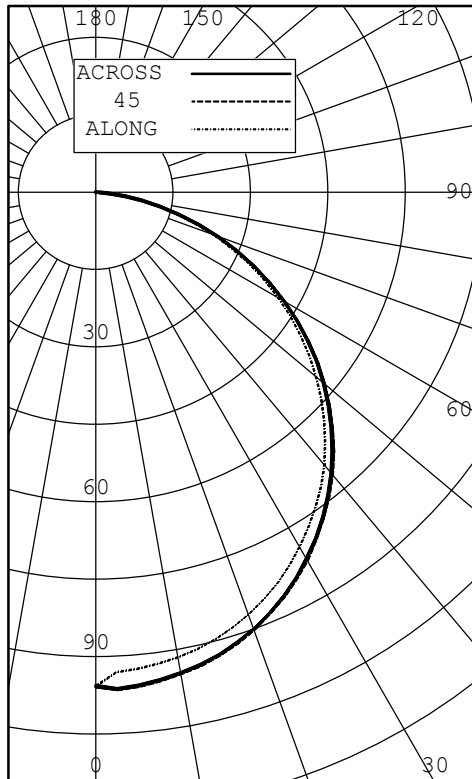


Test Conditions

Test Temperature:	25.0 °C
Voltage:	12.00 VDC
Current:	0.2705 A
Power:	3.248 W



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	96	96	96	96	96	
5	93	95	96	96	96	9
10	92	94	95	95	95	
15	90	92	93	93	93	26
20	87	90	90	90	90	
25	84	86	87	86	86	40
30	79	82	82	82	82	
35	74	77	77	77	77	48
40	69	71	71	71	71	
45	63	65	65	65	65	50
50	56	58	58	58	58	
55	48	50	50	50	50	45
60	41	42	42	42	42	
65	33	34	34	34	34	33
70	24	25	25	25	25	
75	16	17	17	17	17	18
80	9	9	9	9	9	
85	3	3	3	3	3	4
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	75	27.52
0-40	123	45.12
0-60	217	79.83
0-90	272	100.00
40-90	149	54.88
60-90	55	20.17
90-180	0	0.00
0-180	272	100.00

EFFICACY (LUMENS PER WATT): 84.9

*** 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	30469	31759	31587
55	29095	30351	30231
65	26651	27726	27694
75	21493	22384	22443
85	9880	11490	11703

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	96	96	96	96	96	96	
2.5	93	96	97	96	96	96	
5.0	93	95	96	96	96	95	9
7.5	92	95	96	95	95	95	
10.0	92	94	95	95	95	94	
12.5	91	93	94	94	94	93	
15.0	90	92	93	93	93	92	26
17.5	88	91	92	91	91	91	
20.0	87	90	90	90	90	90	
22.5	85	88	89	88	88	88	
25.0	84	86	87	86	86	86	40
27.5	81	84	85	84	84	84	
30.0	79	82	82	82	82	82	
32.5	77	79	80	79	79	79	
35.0	74	77	77	77	77	77	48
37.5	72	74	74	74	74	74	
40.0	69	71	71	71	71	71	
42.5	66	68	68	68	68	68	
45.0	63	65	65	65	65	64	50
47.5	59	61	62	61	61	61	
50.0	56	58	58	58	58	58	
52.5	52	54	54	54	54	54	
55.0	48	50	50	50	50	50	45
57.5	45	46	46	46	46	46	
60.0	41	42	42	42	42	42	
62.5	37	38	38	38	38	38	
65.0	33	34	34	34	34	34	33
67.5	29	30	30	30	30	29	
70.0	24	25	25	25	25	25	
72.5	20	21	21	21	21	21	
75.0	16	17	17	17	17	17	18
77.5	12	13	13	13	13	13	
80.0	9	9	9	9	9	9	
82.5	5	6	6	6	6	6	
85.0	3	3	3	3	3	3	4
87.5	0	1	1	1	1	1	
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	1.131	.081	.041	.00	1.101	.061	.020	.98	1.071	.041	.000	.97	0.990	.960	.94	0.950	.930	.91	0.920	.900	.88	0.86			
	2	1.030	.960	.890	.83	1.010	.940	.870	.82	0.990	.920	.860	.81	0.880	.830	.79	0.850	.810	.77	0.820	.790	.76	0.74			
	3	0.950	.840	.760	.70	0.920	.830	.750	.69	0.900	.810	.740	.69	0.780	.720	.67	0.760	.710	.66	0.730	.690	.65	0.63			
	4	0.870	.750	.660	.60	0.850	.740	.660	.60	0.830	.730	.650	.59	0.700	.640	.58	0.680	.620	.58	0.660	.610	.57	0.55			
	5	0.810	.670	.580	.52	0.780	.660	.580	.51	0.760	.650	.570	.51	0.630	.560	.51	0.610	.550	.50	0.590	.540	.49	0.47			
	6	0.740	.600	.510	.45	0.720	.590	.510	.45	0.700	.580	.500	.44	0.560	.490	.44	0.550	.480	.44	0.530	.480	.43	0.41			
	7	0.680	.540	.450	.39	0.660	.530	.450	.39	0.650	.520	.440	.38	0.510	.430	.38	0.490	.430	.38	0.480	.420	.37	0.35			
	8	0.630	.490	.400	.34	0.610	.480	.400	.34	0.600	.470	.390	.34	0.460	.390	.34	0.450	.380	.33	0.440	.380	.33	0.31			
	9	0.580	.440	.360	.30	0.570	.440	.350	.30	0.550	.430	.350	.30	0.420	.350	.30	0.410	.340	.29	0.400	.340	.29	0.27			
	10	0.540	.400	.320	.27	0.530	.400	.320	.26	0.520	.390	.320	.26	0.380	.310	.26	0.370	.310	.26	0.360	.300	.26	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.