

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: SHAPER

Report Number: P34357

Luminaire Tested: **164-W-L1/835-UNV**

Test Date: 08/20/15

**Test Information**

Test Method: LM-79-08  
Report Number: P34357  
Test Lab: INNOVATION CENTER-P3  
Test Date: 08/20/15  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 164-W-L1/835-UNV  
Description: SHAPER 164 SERIES 12" FABRIQUE SQUARE WALL SCONCE LUMINAIRE.  
Light Source: 6 CKTS 3500K LEDS  
12423468  
Ballast/Driver: (1) ROAL ELECTRONIC DRIVER  
RSLD035-07

**Summary**

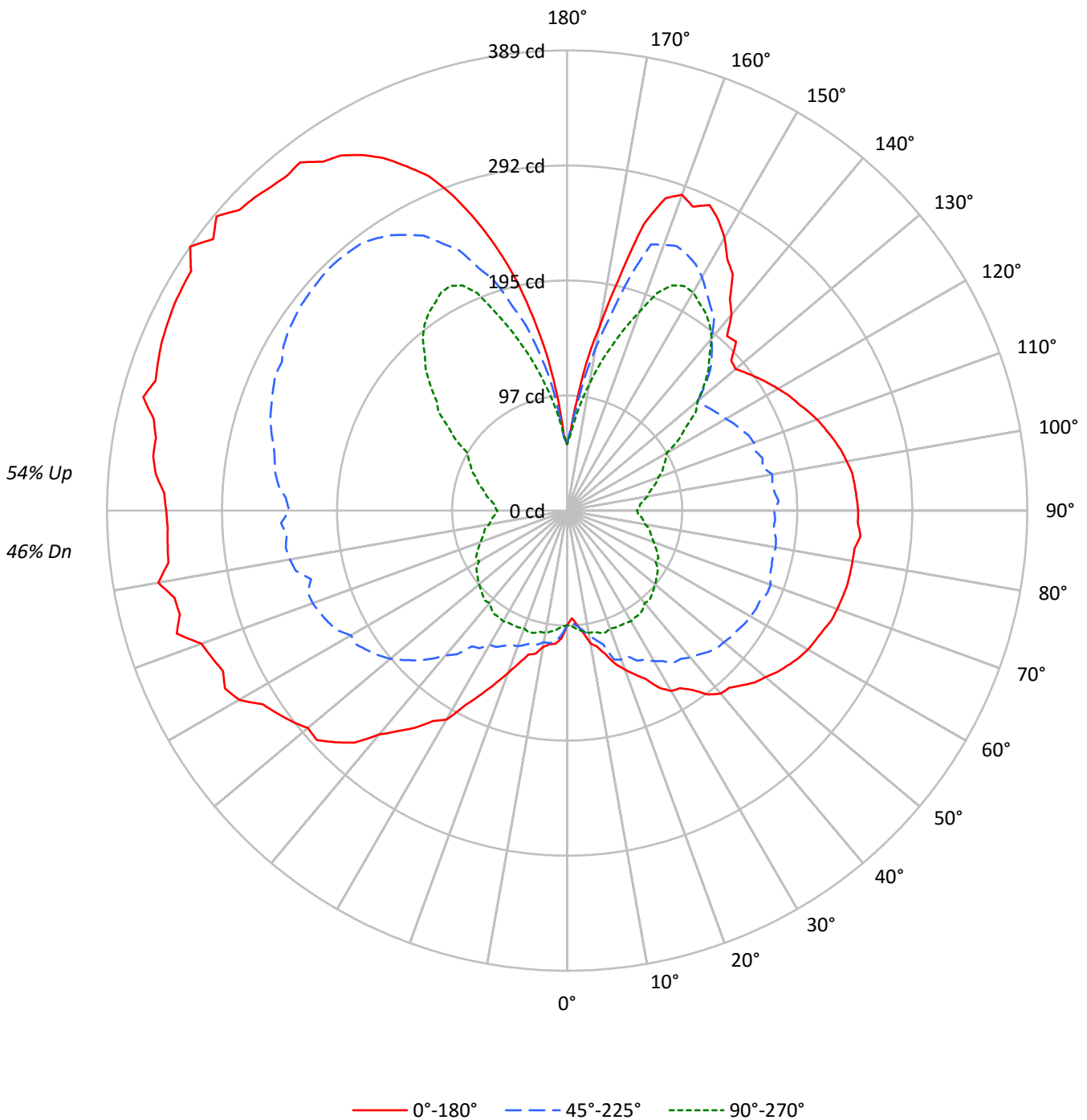
Lumens per Lamp: N/A  
Luminaire Lumens: 2458.6 lumens  
Efficiency: N/A  
Efficacy: 87.5 lumens/watt  
Spacing Criteria (0/90/45): 2.9 / 1.62 / 2.42  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 0.33' x H: 1')  
CIE Type: General Diffuse

Input Watts (W): 28.1  
Input Voltage (V): 120.1  
Input Current (A<sub>in</sub>): 0.247  
Voltage Rise (V): NR  
Power Factor: 0.9718  
Total Harmonic Distortion (THDi): 22.1  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: HR  
Ambient Temperature (°C): 25.0  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	53	53	53	46
1	92	86	81	76	84	79	74	69	65	61	57	51	49	46	39	37	36	30
2	82	73	65	58	75	66	59	53	54	49	44	43	39	35	32	29	27	21
3	74	63	54	47	67	57	49	43	46	40	35	36	32	28	27	24	21	16
4	67	55	45	38	61	50	41	35	40	34	29	32	27	23	23	20	17	13
5	61	48	39	32	55	44	35	29	35	29	24	28	23	19	21	17	14	10
6	56	43	33	27	51	39	31	25	31	25	20	25	20	16	18	15	12	8
7	52	38	29	23	47	35	27	21	28	22	17	22	17	14	17	13	10	7
8	48	34	26	20	43	31	24	18	26	19	15	20	15	12	15	11	9	6
9	44	31	23	18	40	28	21	16	23	17	13	18	14	10	14	10	8	5
10	41	28	21	15	37	26	19	14	21	16	12	17	12	9	13	9	7	5

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	3132	3132	3132
5°	2491	3011	2901
10°	2445	2927	2509
15°	2335	2821	2335
20°	2349	2671	2398
25°	2332	2600	2540
30°	2402	2553	2784
35°	2352	2481	2848
40°	2421	2338	2960
45°	2386	2306	3162
50°	2405	2223	3140
55°	2429	2156	3185
60°	2449	2033	3335
65°	2457	2041	3300
70°	2482	1965	3361
75°	2506	1925	3468
80°	2529	1868	3623
85°	2614	1878	3559



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	10.1	0.4
10°-20°	33.7	1.4
20°-30°	63.3	2.6
30°-40°	98.8	4.0
40°-50°	136.9	5.6
50°-60°	169.3	6.9
60°-70°	195.9	8.0
70°-80°	209.7	8.5
80°-90°	215.1	8.7
90°-100°	212.3	8.6
100°-110°	212.5	8.6
110°-120°	203.2	8.3
120°-130°	188.6	7.7
130°-140°	175.1	7.1
140°-150°	155.1	6.3
150°-160°	114.3	4.6
160°-170°	54.9	2.2
170°-180°	9.8	0.4
0°-30°	107.1	4.4
0°-40°	205.8	8.4
0°-60°	512.0	20.8
0°-90°	1132.7	46.1
90°-120°	628.0	25.5
90°-150°	1146.8	46.6
90°-180°	1326.0	53.9
0°-180°	2458.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	97	97	97	97	97	
5°	97	98	101	111	113	10
15°	126	117	107	116	126	36
25°	157	140	107	126	171	74
35°	185	157	107	140	224	118
45°	209	169	101	179	277	162
55°	228	176	93	206	299	204
65°	239	180	84	223	321	238
75°	245	179	73	224	339	259
85°	249	175	63	238	339	201
90°	246	175	59	235	339	135
95°	244	176	62	245	349	199
105°	233	171	75	259	371	246
115°	215	162	90	272	373	214
125°	196	149	122	282	389	176
135°	202	172	169	287	374	153
145°	244	211	204	281	360	151
155°	285	239	210	249	321	129
165°	251	204	143	179	230	69
175°	93	86	78	85	98	11
180°	56	56	56	56	56	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	97	97	97	97	97	97	97	97	97
2.5°	91	93	95	97	98	102	105	104	108
5°	97	97	98	99	101	107	111	111	113
7.5°	104	104	102	102	103	109	113	113	114
10°	114	110	107	106	105	110	113	116	117
12.5°	118	116	112	111	105	111	116	117	124
15°	126	126	117	113	107	112	116	123	126
17.5°	136	135	132	114	108	113	119	126	135
20°	143	141	134	119	106	115	122	134	146
22.5°	150	145	133	122	107	118	123	144	158
25°	157	151	140	122	107	121	126	153	171
27.5°	169	158	142	124	107	125	130	168	185
30°	176	163	147	126	108	131	131	177	204
32.5°	178	171	151	127	107	130	138	193	211
35°	185	176	157	128	107	134	140	205	224
37.5°	196	182	158	130	105	138	153	217	235
40°	202	187	162	131	102	144	160	228	247
42.5°	203	193	165	133	103	145	170	235	266
45°	209	197	169	132	101	148	179	246	277
47.5°	215	202	172	132	99	148	187	259	287
50°	219	205	173	134	97	149	195	267	286
52.5°	224	210	175	132	95	150	201	275	293
55°	228	213	176	132	93	146	206	278	299
57.5°	232	217	178	131	91	148	211	276	305
60°	235	221	179	131	86	153	211	293	320
62.5°	237	223	180	132	87	163	219	295	326
65°	239	223	180	129	84	164	223	294	321
67.5°	242	225	183	129	81	163	226	299	325
70°	243	226	183	125	78	163	229	295	329
72.5°	244	226	180	124	75	164	230	291	346
75°	245	227	179	123	73	158	224	303	339
77.5°	245	227	178	120	71	168	235	305	340
80°	245	227	179	118	67	161	238	291	351
82.5°	245	228	178	116	65	164	240	305	340
85°	249	226	175	116	63	164	238	306	339
87.5°	246	227	176	114	60	165	242	306	338
90°	246	228	175	118	59	121	235	303	339
92.5°	245	230	179	116	61	123	238	306	341
95°	244	226	176	116	62	127	245	307	349
97.5°	243	225	175	115	65	129	249	313	353
100°	240	223	176	114	69	134	251	318	353
102.5°	237	218	169	114	71	141	254	329	358
105°	233	215	171	115	75	141	259	335	371
107.5°	229	211	167	117	79	143	263	341	365
110°	225	209	168	114	82	149	266	341	368



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	220	203	166	114	87	152	269	346	371
115°	215	202	162	114	90	160	272	349	373
117.5°	211	196	159	114	94	163	272	352	375
120°	206	191	155	112	97	168	277	349	376
122.5°	201	187	152	112	112	179	280	356	377
125°	196	182	149	116	122	183	282	357	389
127.5°	191	177	146	124	137	189	284	357	377
130°	186	178	144	131	144	195	285	357	387
132.5°	188	177	159	143	157	203	286	357	376
135°	202	184	172	154	169	205	287	355	374
137.5°	200	204	181	165	178	207	287	347	371
140°	216	209	190	174	190	213	286	353	369
142.5°	226	230	204	194	198	214	285	348	371
145°	244	231	211	199	204	212	281	337	360
147.5°	252	245	219	201	208	211	276	330	356
150°	266	258	228	212	213	206	269	327	347
152.5°	277	260	235	218	214	201	262	317	336
155°	285	268	239	225	210	192	249	304	321
157.5°	278	276	242	228	199	184	238	287	306
160°	284	273	239	218	179	173	218	266	284
162.5°	277	264	236	195	161	163	203	240	258
165°	251	237	204	165	143	147	179	215	230
167.5°	199	195	168	141	126	133	160	187	200
170°	158	159	140	119	109	115	135	157	166
172.5°	127	123	113	99	93	97	112	124	133
175°	93	92	86	81	78	78	85	92	98
177.5°	67	69	69	66	64	61	62	62	63
180°	56	56	56	56	56	56	56	56	56

(END OF REPORT)