

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: FAIL-SAFE

Report Number: H26074

Luminaire Tested: **MHGC-HE-175**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: H26074  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MHGC-HE-175  
Description: FAILSAFE SURFACE MOUNT  
Light Source: MVR175/U/MED  
175 WATTS 13600 LUMENS  
Ballast/Driver: -

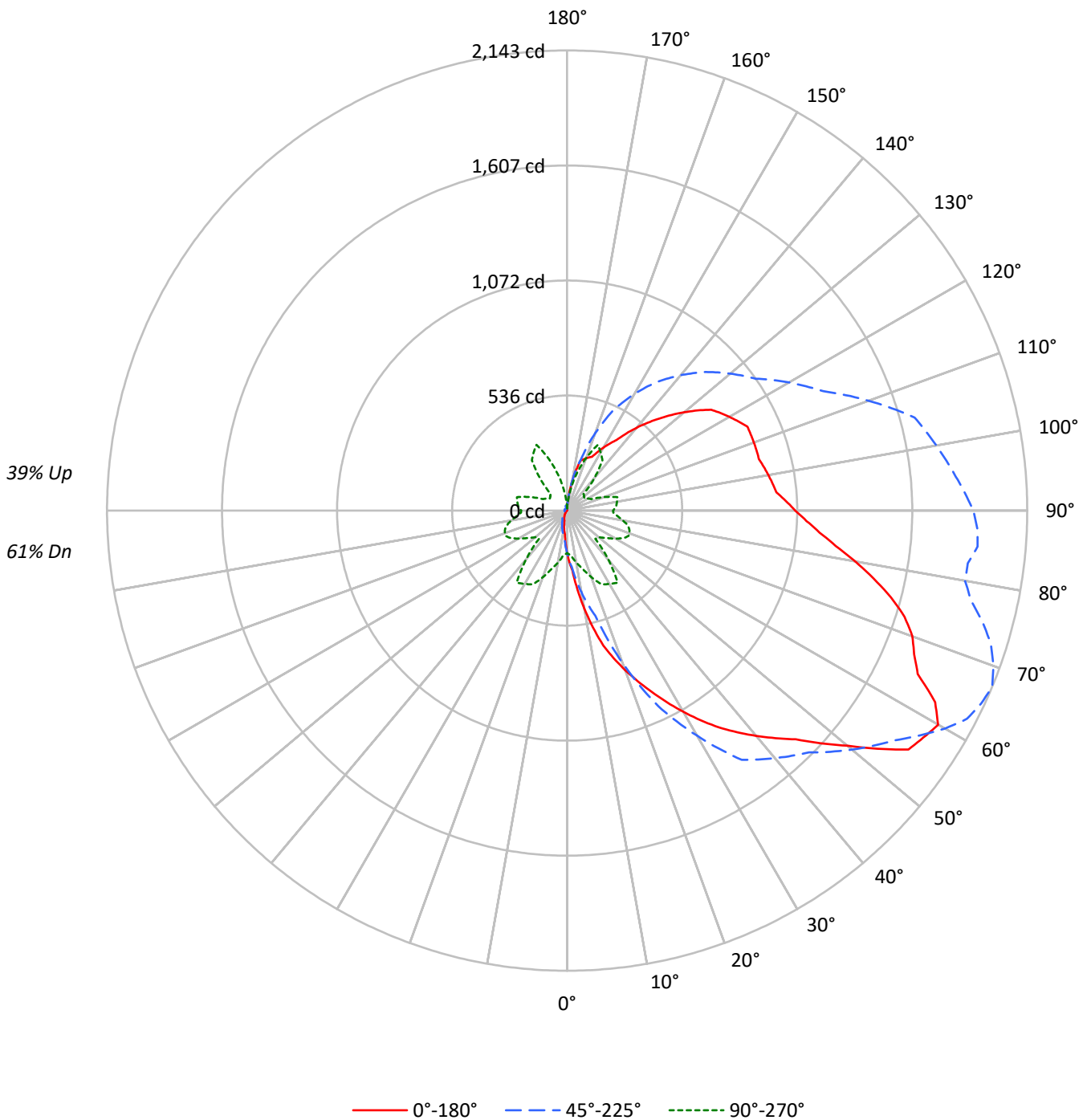
**Summary**

Lumens per Lamp: 13600 (1 lamp)  
Luminaire Lumens: 7220.0 lumens  
Efficiency: 53.1%  
Efficacy: 38.0 lumens/watt  
Spacing Criteria (0/90/45): 3.79 / 1.82 / 3.68  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Semi-Direct

Input Watts (W): 190  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): 1.2  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
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	58	58	58	58	55	55	55	55	48	48	48	41	41	41	35	35	35	33
1	50	47	43	40	47	43	40	38	37	35	33	32	30	28	26	25	24	21
2	44	39	34	30	41	36	32	28	31	27	25	26	23	21	21	19	18	15
3	40	33	28	24	37	31	26	22	26	22	19	22	19	16	18	15	13	11
4	36	29	23	19	33	26	22	18	22	19	15	19	16	13	15	13	11	9
5	33	25	20	16	30	23	18	15	20	16	13	16	13	11	13	11	9	7
6	30	22	17	13	27	20	16	12	17	13	11	15	11	9	12	9	7	6
7	27	20	15	11	25	18	14	10	16	12	9	13	10	8	11	8	6	5
8	25	18	13	10	23	16	12	9	14	10	8	12	9	6	10	7	5	4
9	23	16	11	8	22	15	11	8	13	9	7	11	8	6	9	6	5	3
10	22	15	10	7	20	14	10	7	12	8	6	10	7	5	8	6	4	3

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

	0°	90°	180°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	21.1	0.3	0.2	0°	198	198	198	198	198	
10°-20°	92.4	1.3	0.7	5°	280	269	210	135	114	32
20°-30°	219.3	3.0	1.6	15°	650	507	281	87	50	178
30°-40°	377.6	5.2	2.8	25°	931	1005	379	52	30	433
40°-50°	545.0	7.5	4.0	35°	1233	1417	410	37	15	770
50°-60°	729.0	10.1	5.4	45°	1506	1593	186	27	8	1190
60°-70°	841.2	11.7	6.2	55°	1940	1865	222	17	4	1702
70°-80°	828.0	11.5	6.1	65°	1802	2127	298	12	4	1818
80°-90°	775.3	10.7	5.7	75°	1562	2002	296	12	5	1640
90°-100°	696.3	9.6	5.1	85°	1180	1919	227	12	5	1002
100°-110°	610.0	8.4	4.5	90°	1062	1892	214	13	5	584
110°-120°	500.3	6.9	3.7	95°	978	1817	229	13	5	805
120°-130°	380.8	5.3	2.8	105°	925	1675	242	13	5	993
130°-140°	270.6	3.7	2.0	115°	926	1315	126	12	5	892
140°-150°	181.8	2.5	1.3	125°	819	1071	98	11	4	711
150°-160°	105.4	1.5	0.8	135°	606	913	108	11	3	471
160°-170°	39.3	0.5	0.3	145°	401	732	286	10	2	265
170°-180°	4.6	0.1	0.0	155°	277	521	338	8	2	138
0°-30°	332.8	4.6	2.4	165°	241	247	185	24	1	57
0°-40°	710.4	9.8	5.2	175°	49	49	38	11	1	7
0°-60°	1984.3	27.5	14.6	180°	10	10	10	10	10	
0°-90°	4428.7	61.3	32.6							
90°-120°	1806.5	25.0	13.3							
90°-150°	2639.7	36.6	19.4							
90°-180°	2789.0	38.6	20.5							
0°-180°	7220.0	100.0	53.1							



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	198	198	198	198	198	198	198	198	198	198	198
5°	280	277	276	275	273	269	263	253	239	221	210
15°	650	631	618	597	557	507	475	424	383	321	281
25°	931	920	960	1094	1051	1005	968	764	635	493	379
35°	1233	1213	1228	1286	1464	1417	1298	1142	868	570	410
45°	1506	1494	1500	1519	1666	1593	1401	1208	1073	482	186
50°	1703	1691	1681	1712	1895	1732	1527	1339	1163	459	192
55°	1940	1928	1841	1839	2014	1865	1683	1447	1206	520	222
60°	1995	1998	1892	1909	2087	2031	1804	1582	1274	563	261
62.5°	1932	1938	1860	1874	2058	2100	1853	1651	1304	581	280
65°	1802	1812	1774	1821	1984	2127	1883	1703	1344	596	298
67.5°	1749	1736	1671	1724	1903	2143	1905	1729	1384	594	309
70°	1711	1703	1635	1618	1792	2112	1929	1741	1402	579	309
72.5°	1648	1651	1604	1576	1674	2070	1944	1727	1386	557	304
75°	1562	1580	1559	1541	1579	2002	1957	1718	1379	535	296
77.5°	1462	1496	1504	1507	1526	1925	1955	1697	1352	508	282
80°	1361	1410	1445	1485	1495	1882	1955	1669	1291	483	263
82.5°	1262	1321	1388	1484	1490	1882	1935	1653	1254	451	244
85°	1180	1237	1343	1499	1499	1919	1908	1610	1213	421	227
87.5°	1116	1161	1311	1505	1487	1912	1829	1537	1172	386	215
90°	1062	1097	1284	1486	1474	1892	1744	1443	1133	357	214
95°	978	1008	1207	1440	1455	1817	1623	1252	1043	343	229
105°	925	971	1129	1286	1347	1675	1448	1083	942	395	242
115°	926	1002	1110	1158	1230	1315	1147	955	713	239	126
125°	819	888	971	986	1136	1071	910	763	565	237	98
135°	606	657	722	741	966	913	660	550	451	374	108
145°	401	405	439	485	766	732	656	535	468	447	286
155°	277	278	311	528	532	521	480	449	418	374	338
165°	241	231	222	233	246	247	240	237	231	195	185
175°	49	52	51	50	49	49	51	50	45	40	38
180°	10	10	10	10	10	10	10	10	10	10	10



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	198	198	198	198	198	198	198	198	198	198
5°	199	179	159	145	135	126	118	116	115	114
15°	242	186	152	126	87	63	56	52	51	50
25°	328	189	102	74	52	38	33	31	30	30
35°	179	116	89	63	37	26	20	17	16	15
45°	167	119	98	55	27	15	11	9	8	8
50°	166	116	89	44	21	12	8	6	6	5
55°	157	104	72	35	17	9	6	4	4	4
60°	147	89	54	29	14	7	4	4	4	4
62.5°	149	82	47	26	13	6	5	4	4	4
65°	153	75	41	23	12	6	5	4	4	4
67.5°	159	70	37	21	12	6	5	4	4	4
70°	158	66	35	20	12	7	5	5	4	4
72.5°	154	62	33	20	12	7	5	5	5	5
75°	147	59	32	20	12	7	5	5	5	5
77.5°	137	56	31	20	12	7	6	5	5	5
80°	123	53	31	20	12	7	6	5	5	5
82.5°	109	51	31	20	12	7	6	5	5	5
85°	98	50	31	20	12	8	6	5	5	5
87.5°	94	49	30	20	12	8	6	5	5	5
90°	95	49	30	20	13	8	6	6	6	5
95°	100	48	30	20	13	8	6	6	6	5
105°	138	49	30	20	13	7	6	5	5	5
115°	76	49	30	19	12	7	5	5	5	5
125°	72	45	31	18	11	6	5	4	4	4
135°	76	42	33	20	11	5	4	3	3	3
145°	119	49	25	17	10	4	3	2	2	2
155°	250	122	38	16	8	4	2	2	2	2
165°	161	117	84	55	24	7	2	1	1	1
175°	35	30	24	17	11	6	3	1	1	1
180°	10	10	10	10	10	10	10	10	10	10

(END OF REPORT)