

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: 766693

Luminaire Tested: **MHEW-70xxxx**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 766693
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MHEW-70xxxx
Description: FAIL-SAFE WHITE 9 x 9
Light Source: #024 - 70W MH CL HOR MED 5600 LUMENS
Ballast/Driver: -

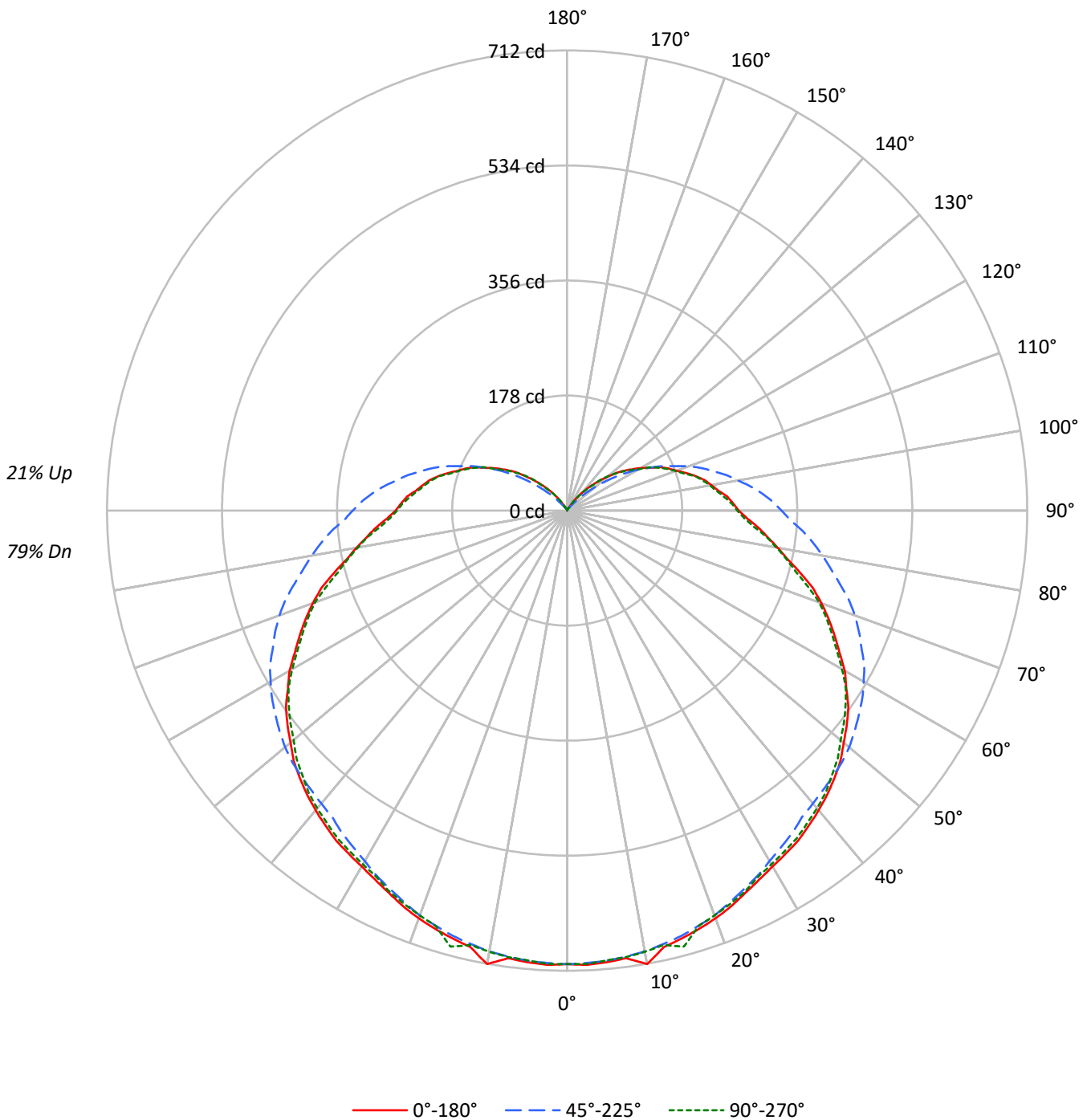
Summary

Lumens per Lamp: 5600 (1 lamp)
Luminaire Lumens: 3969.6 lumens
Efficiency: 70.9%
Efficacy: 56.7 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.36 / 1.55
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Direct

Input Watts (W): 70
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
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	81	81	81	81	77	77	77	77	71	71	71	65	65	65	59	59	59	56
1	71	66	62	59	67	63	59	56	57	54	52	52	50	47	47	45	44	41
2	63	56	50	45	60	53	48	44	49	44	40	44	40	37	40	37	34	32
3	57	48	42	36	54	46	40	35	42	37	33	38	34	30	34	31	28	26
4	52	42	35	30	49	40	34	29	37	31	27	33	29	25	30	26	23	21
5	47	37	30	25	45	36	29	24	32	27	23	29	25	21	27	23	20	18
6	43	33	27	22	41	32	26	21	29	24	20	26	22	18	24	20	17	15
7	40	30	23	19	38	29	23	18	26	21	17	24	19	16	22	18	15	13
8	37	27	21	17	35	26	20	16	24	19	15	22	17	14	20	16	13	12
9	35	25	19	15	33	24	18	14	22	17	13	20	16	13	18	15	12	10
10	32	23	17	13	31	22	16	13	20	15	12	19	14	11	17	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
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°	22.5°	45°	67.5°	90°	Flux
0°-10°	66.6	1.7	1.2	0°	702	702	702	702	702	
10°-20°	192.9	4.9	3.4	5°	702	700	699	700	699	67
20°-30°	299.6	7.5	5.4	15°	685	681	682	681	698	194
30°-40°	385.3	9.7	6.9	25°	653	648	647	649	650	302
40°-50°	448.9	11.3	8.0	35°	623	615	608	614	619	390
50°-60°	480.9	12.1	8.6	45°	585	580	582	578	579	452
60°-70°	476.3	12.0	8.5	55°	531	535	551	533	526	474
70°-80°	433.0	10.9	7.7	65°	456	486	502	482	452	453
80°-90°	366.3	9.2	6.5	75°	374	418	437	414	367	395
90°-100°	301.7	7.6	5.4	85°	296	343	366	339	290	249
100°-110°	231.2	5.8	4.1	90°	265	310	332	309	263	146
110°-120°	154.3	3.9	2.8	95°	249	281	303	278	244	198
120°-130°	86.5	2.2	1.5	105°	206	217	235	216	205	217
130°-140°	35.8	0.9	0.6	115°	159	152	163	151	157	156
140°-150°	8.4	0.2	0.1	125°	108	92	92	92	106	96
150°-160°	1.5	0.0	0.0	135°	57	45	29	47	55	45
160°-170°	0.3	0.0	0.0	145°	17	12	6	12	18	12
170°-180°	0.0	0.0	0.0	155°	4	3	3	3	3	2
0°-30°	559.2	14.1	10.0	165°	1	1	1	1	1	0
0°-40°	944.4	23.8	16.9	175°	0	0	0	0	0	0
0°-60°	1874.2	47.2	33.5	180°	0	0	0	0	0	
0°-90°	3149.9	79.3	56.2							
90°-120°	687.2	17.3	12.3							
90°-150°	817.9	20.6	14.6							
90°-180°	820.0	20.7	14.6							
0°-180°	3969.6	100.0	70.9							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	701.8	701.8	701.8	701.8	701.8
2.5°	703.6	701.0	700.8	700.9	702.0
5°	701.5	699.5	698.9	699.7	698.6
7.5°	698.4	697.0	696.2	696.9	696.8
10°	712.4	693.1	692.5	692.5	693.2
12.5°	691.7	687.2	687.1	687.7	688.5
15°	685.4	681.0	681.5	680.8	698.4
17.5°	678.6	674.6	674.1	674.0	674.3
20°	671.4	666.0	666.6	666.5	666.6
22.5°	662.8	658.1	656.6	657.3	658.8
25°	652.7	647.7	646.6	648.6	650.5
27.5°	643.7	638.6	637.4	637.5	639.0
30°	635.8	629.9	626.3	628.1	632.0
32.5°	629.5	621.1	616.9	620.1	625.3
35°	623.2	614.7	608.0	614.0	619.2
37.5°	614.4	606.8	597.4	607.3	609.9
40°	605.4	598.4	591.8	599.0	601.4
42.5°	595.8	590.2	586.3	588.4	592.0
45°	585.0	579.5	581.7	578.3	579.3
47.5°	573.7	568.6	576.5	568.5	567.9
50°	558.6	558.6	569.6	558.4	552.3
52.5°	545.3	546.8	560.7	546.4	539.7
55°	531.2	535.0	551.1	533.1	526.0
57.5°	512.3	523.3	541.5	520.9	511.2
60°	496.1	510.4	529.8	509.1	491.1
62.5°	474.9	498.8	518.4	497.1	470.6
65°	456.4	485.8	502.3	481.9	452.0
67.5°	437.8	467.1	488.8	465.0	434.0
70°	418.6	451.7	473.7	447.7	415.0
72.5°	398.6	434.0	456.5	432.4	390.5
75°	373.6	417.9	436.6	413.8	366.6
77.5°	349.5	398.6	417.9	395.4	347.7
80°	330.6	377.5	401.2	376.4	328.8
82.5°	312.6	358.6	384.1	357.5	310.8
85°	296.4	342.6	366.2	338.9	290.3
87.5°	278.9	325.6	345.6	322.6	274.3
90°	265.3	309.8	331.7	308.6	263.3
92.5°	257.0	294.9	318.1	294.0	254.5
95°	248.7	280.8	303.1	277.7	243.8
97.5°	235.9	265.3	286.2	264.1	233.0
100°	226.7	249.1	268.5	248.6	224.2
102.5°	217.7	234.1	252.7	232.4	215.0
105°	206.2	216.7	234.7	215.6	205.3
107.5°	193.1	207.8	218.6	198.8	190.0
110°	180.1	181.7	199.9	182.1	178.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	169.9	166.9	179.4	165.3	168.1
115°	158.9	152.2	162.6	150.6	156.7
117.5°	142.5	136.6	143.4	134.2	145.4
120°	131.5	118.7	126.7	119.3	128.3
122.5°	118.6	104.2	108.1	105.4	116.8
125°	107.6	92.4	91.8	91.8	105.5
127.5°	95.2	81.2	72.4	80.8	93.9
130°	81.0	70.3	57.8	70.2	82.6
132.5°	68.7	57.1	42.6	57.9	71.3
135°	56.9	45.4	29.4	46.7	54.7
137.5°	47.0	35.8	19.4	34.9	44.3
140°	36.2	26.2	11.7	26.4	34.6
142.5°	27.7	18.6	7.2	18.5	25.6
145°	16.6	12.2	6.1	12.2	17.8
147.5°	10.6	6.7	5.3	6.6	11.2
150°	5.4	4.3	4.5	4.4	6.3
152.5°	4.1	3.6	3.8	3.6	4.0
155°	3.6	3.1	3.1	3.1	3.4
157.5°	3.1	2.5	2.4	2.5	2.7
160°	2.5	2.1	1.6	2.0	2.2
162.5°	2.0	1.6	1.1	1.4	1.6
165°	1.3	1.2	0.8	1.0	1.3
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)