

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: 766669

Luminaire Tested: **MHEC-100xxxx CLEAR 9x9**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: 766669  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MHEC-100xxxx CLEAR 9x9  
Description: FAIL-SAFE 9 in. Square MH Clear Prismatic Vandal Resistant Luminaire  
Light Source: #026 - 100W MH CL HOR MED 8500 LUMENS  
Ballast/Driver: -

**Summary**

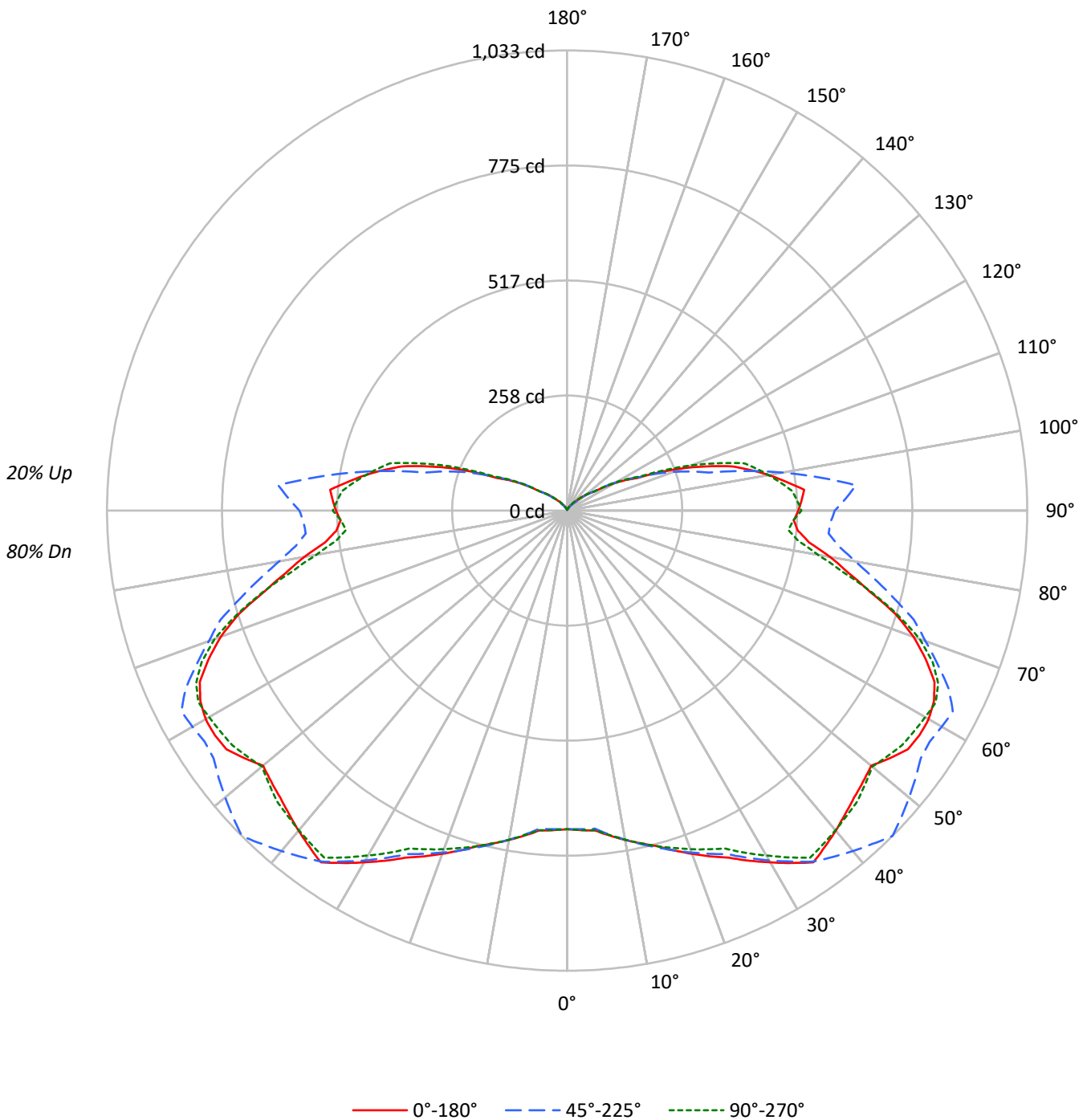
Lumens per Lamp: 8500 (1 lamp)  
Luminaire Lumens: 6571.8 lumens  
Efficiency: 77.3%  
Efficacy: 65.7 lumens/watt  
Spacing Criteria (0/90/45): 1.87 / 1.88 / 2.04  
Luminous Opening: Rectangular w/ Sides (W: 0.75' x L: 0.75' x H: 0.39')  
CIE Type: Semi-Direct

Input Watts (W): 100  
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	88	88	88	88	85	85	85	85	77	77	77		71	71	71		65	65	65	62
1	77	72	67	63	73	68	64	60	62	59	55		56	54	51		51	49	47	44
2	68	60	53	48	64	57	51	46	52	47	42		47	43	39		42	39	36	33
3	61	51	44	38	58	49	42	36	44	38	34		40	35	31		36	32	29	26
4	55	44	37	31	52	42	35	29	38	32	27		35	29	25		31	27	23	21
5	50	39	31	25	47	37	30	24	34	27	23		30	25	21		27	23	19	17
6	46	35	27	21	43	33	26	21	30	24	19		27	22	18		25	20	16	14
7	42	31	24	18	40	30	23	18	27	21	17		24	19	15		22	18	14	12
8	39	28	21	16	37	27	20	15	24	19	14		22	17	13		20	16	12	11
9	36	25	19	14	35	24	18	14	22	17	13		20	15	12		18	14	11	9
10	34	23	17	12	32	22	16	12	20	15	11		19	14	11		17	13	10	8

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

	0°	90°	180°
0°	13682	13682	13682
5°	13246	13228	13246
10°	13365	13348	13365
15°	13560	13560	13560
20°	14038	13849	14038
25°	14610	14219	14610
30°	15493	15187	15493
35°	16502	16279	16502
40°	16306	16288	16306
45°	16211	16407	16211
50°	16367	16422	16367
55°	17869	17563	17869
60°	18854	18673	18854
65°	19465	19657	19465
70°	19034	19380	19034
75°	17682	17758	17682
80°	16696	15943	16696
85°	16421	15726	16421



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	69.8	1.1	0.8	0°	715	715	715	715	715	
10°-20°	222.5	3.4	2.6	5°	721	717	720	717	721	70
20°-30°	396.3	6.0	4.7	15°	780	783	780	783	780	223
30°-40°	595.7	9.1	7.0	25°	860	851	837	851	860	401
40°-50°	747.2	11.4	8.8	35°	964	962	951	962	964	594
50°-60°	865.5	13.2	10.2	45°	911	1033	922	1033	911	706
60°-70°	916.8	14.0	10.8	55°	934	969	918	969	934	830
70°-80°	802.4	12.2	9.4	65°	910	945	919	945	910	890
80°-90°	645.4	9.8	7.6	75°	704	759	707	759	704	749
90°-100°	613.0	9.3	7.2	85°	520	589	498	589	520	442
100°-110°	396.8	6.0	4.7	90°	519	601	526	601	519	284
110°-120°	184.6	2.8	2.2	95°	534	651	507	651	534	415
120°-130°	74.2	1.1	0.9	105°	383	330	411	330	383	398
130°-140°	27.6	0.4	0.3	115°	172	178	180	178	172	186
140°-150°	9.3	0.1	0.1	125°	74	76	74	76	74	74
150°-160°	3.3	0.0	0.0	135°	35	28	37	28	35	29
160°-170°	1.1	0.0	0.0	145°	15	11	16	11	15	11
170°-180°	0.2	0.0	0.0	155°	6	7	7	7	6	3
0°-30°	688.6	10.5	8.1	165°	3	3	4	3	3	1
0°-40°	1284.3	19.5	15.1	175°	2	2	3	2	2	0
0°-60°	2897.0	44.1	34.1	180°	2	2	2	2	2	
0°-90°	5261.7	80.1	61.9							
90°-120°	1194.4	18.2	14.1							
90°-150°	1305.5	19.9	15.4							
90°-180°	1310.0	19.9	15.4							
0°-180°	6571.8	100.0	77.3							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	715	715	715	715	715	715	715	715	715
2.5°	718	716	716	717	718	717	716	716	718
5°	721	718	717	719	720	719	717	718	721
7.5°	736	733	734	735	735	735	734	733	736
10°	751	749	750	751	750	751	750	749	751
12.5°	765	764	767	766	765	766	767	764	765
15°	780	779	783	782	780	782	783	779	780
17.5°	800	798	800	796	794	796	800	798	800
20°	820	816	817	811	809	811	817	816	820
22.5°	840	835	834	825	823	825	834	835	840
25°	860	854	851	839	837	839	851	854	860
27.5°	886	883	879	866	866	866	879	883	886
30°	912	912	907	893	894	893	907	912	912
32.5°	938	941	934	920	923	920	934	941	938
35°	964	971	962	947	951	947	962	971	964
37.5°	951	975	980	947	944	947	980	975	951
40°	938	980	998	948	937	948	998	980	938
42.5°	924	984	1015	949	929	949	1015	984	924
45°	911	988	1033	950	922	950	1033	988	911
47.5°	901	978	1018	945	908	945	1018	978	901
50°	891	968	1002	940	894	940	1002	968	891
52.5°	913	984	986	963	906	963	986	984	913
55°	934	1000	969	986	918	986	969	1000	934
57.5°	938	1001	965	987	923	987	965	1001	938
60°	937	981	971	965	928	965	971	981	937
62.5°	928	961	976	946	933	946	976	961	928
65°	910	942	945	926	919	926	945	942	910
67.5°	871	917	900	901	888	901	900	917	871
70°	827	886	856	874	842	874	856	886	827
72.5°	773	844	816	835	778	835	816	844	773
75°	704	797	759	782	707	782	759	797	704
77.5°	647	743	706	722	633	722	706	743	647
80°	599	692	656	664	572	664	656	692	599
82.5°	548	652	615	615	524	615	615	652	548
85°	520	617	589	584	498	584	589	617	520
87.5°	509	603	592	577	508	577	592	603	509
90°	519	620	601	597	526	597	601	620	519
92.5°	527	619	626	584	517	584	626	619	527
95°	534	619	651	571	507	571	651	619	534
97.5°	496	558	571	524	483	524	571	558	496
100°	459	498	491	477	459	477	491	498	459
102.5°	421	437	410	431	435	431	410	437	421
105°	383	377	330	384	411	384	330	377	383
107.5°	330	323	292	331	353	331	292	323	330
110°	278	269	254	279	296	279	254	269	278



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	225	215	216	226	238	226	216	215	225
115°	172	161	178	173	180	173	178	161	172
117.5°	148	139	153	149	154	149	153	139	148
120°	123	117	127	126	127	126	127	117	123
122.5°	99	94	102	102	101	102	102	94	99
125°	74	72	76	79	74	79	76	72	74
127.5°	64	62	64	67	65	67	64	62	64
130°	55	52	52	56	56	56	52	52	55
132.5°	45	42	40	44	46	44	40	42	45
135°	35	32	28	33	37	33	28	32	35
137.5°	30	27	24	28	32	28	24	27	30
140°	25	22	20	23	27	23	20	22	25
142.5°	20	17	15	18	21	18	15	17	20
145°	15	12	11	13	16	13	11	12	15
147.5°	13	11	10	12	14	12	10	11	13
150°	11	9	9	10	12	10	9	9	11
152.5°	8	8	8	8	9	8	8	8	8
155°	6	6	7	6	7	6	7	6	6
157.5°	5	5	6	6	6	6	6	5	5
160°	5	5	5	5	6	5	5	5	5
162.5°	4	4	4	5	5	5	4	4	4
165°	3	3	3	4	4	4	3	3	3
167.5°	3	3	3	4	4	4	3	3	3
170°	3	3	3	3	4	3	3	3	3
172.5°	2	2	2	3	3	3	2	2	2
175°	2	2	2	2	3	2	2	2	2
177.5°	2	2	2	2	3	2	2	2	2
180°	2	2	2	2	2	2	2	2	2

(END OF REPORT)