

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P434846

Luminaire Tested: **HCMR4R40930ED010MMS**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434846  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-933-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/24/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCMR4R40930ED010MMS  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 40 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

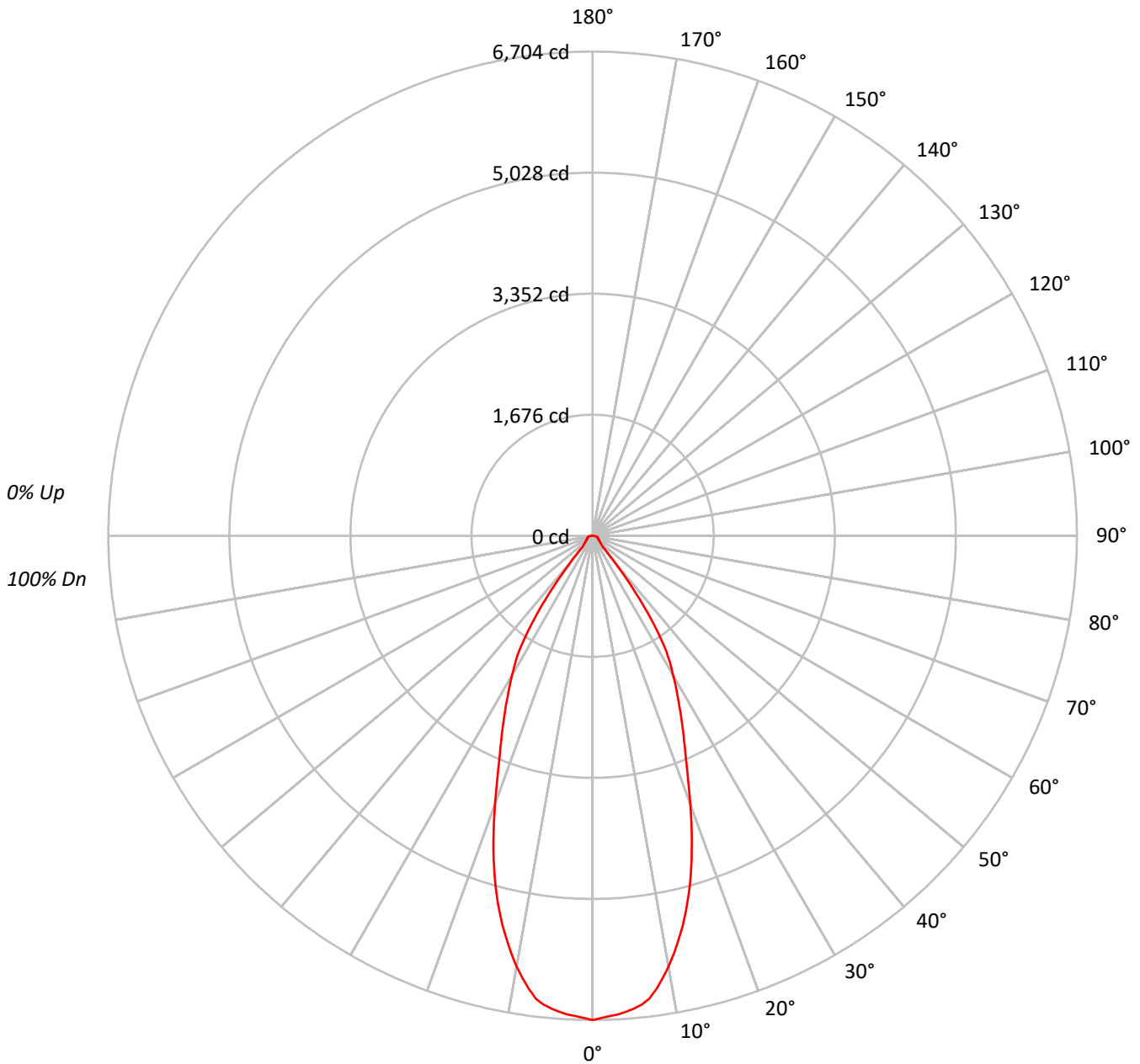
Lumens per Lamp: N/A  
Luminaire Lumens: 4652.1 lumens  
Efficiency: N/A  
Efficacy: 86.0 lumens/watt  
Spacing Criteria (0/90/45): 0.72 / 0.72 / 0.76  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 54.1  
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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93		
2	107	102	98	95	105	101	97	94	97	94	92	94	92	90	92	90	88	86		
3	102	95	90	86	100	94	89	86	91	88	84	89	86	83	87	84	82	80		
4	97	89	84	80	95	88	83	79	86	82	78	84	80	77	82	79	76	75		
5	92	84	78	74	91	83	78	73	81	76	73	80	75	72	78	74	72	70		
6	88	79	73	69	86	78	73	69	77	72	68	75	71	68	74	70	67	66		
7	84	75	69	65	82	74	68	64	73	68	64	72	67	64	70	66	63	62		
8	80	71	65	61	79	70	64	61	69	64	60	68	63	60	67	63	60	58		
9	76	67	61	57	75	66	61	57	66	61	57	65	60	57	64	60	57	55		
10	73	64	58	54	72	63	58	54	62	57	54	62	57	54	61	57	54	52		

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

	0°
0°	3307814
5°	3254629
10°	3034200
15°	2624613
20°	2074132
25°	1605552
30°	1270785
35°	855635
40°	280940
45°	118826
50°	102009
55°	92900
60°	90190
65°	97014
70°	101844
75°	126767
80°	153428
85°	23776



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	611.9	13.2
10°-20°	1410.3	30.3
20°-30°	1362.4	29.3
30°-40°	847.7	18.2
40°-50°	154.8	3.3
50°-60°	97.5	2.1
60°-70°	80.8	1.7
70°-80°	69.2	1.5
80°-90°	17.5	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3384.7	72.8
0°-40°	4232.4	91.0
0°-60°	4484.7	96.4
0°-90°	4652.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4652.1	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	6704	
5°	6572	612
15°	5138	1410
25°	2949	1362
35°	1421	848
45°	170	155
55°	108	97
65°	83	81
75°	66	69
85°	4	17
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	6704.4
1°	6679.5
2°	6654.6
3°	6637.9
4°	6608.9
5°	6571.5
6°	6525.8
7°	6455.2
8°	6338.9
9°	6201.8
10°	6056.4
11°	5894.4
12°	5719.9
13°	5541.3
14°	5346.1
15°	5138.4
16°	4918.2
17°	4685.6
18°	4444.7
19°	4199.6
20°	3950.4
21°	3713.6
22°	3489.3
23°	3289.9
24°	3115.4
25°	2949.3
26°	2795.6
27°	2646.0
28°	2500.7
29°	2363.6
30°	2230.6
32.5°	1906.6
35°	1420.6
37.5°	884.8
40°	436.2
42.5°	207.7
45°	170.3
47.5°	149.5
50°	132.9
52.5°	116.3
55°	108.0
57.5°	99.7
60°	91.4



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**CANDELA DISTRIBUTION (continued):**

	0°
67.5°	74.8
70°	70.6
72.5°	70.6
75°	66.5
77.5°	62.3
80°	54.0
82.5°	33.2
85°	4.2
87.5°	0.0
90°	0.0



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— 0°-180°







62.5°		87.2
65°		83.1



(END OF REPORT)