

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: P434852

Luminaire Tested: **HCMR4R40940ED010MMS**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434852  
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: HCMR4R40940ED010MMS  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 40 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5036.3 lumens  
Efficiency: N/A  
Efficacy: 93.1 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

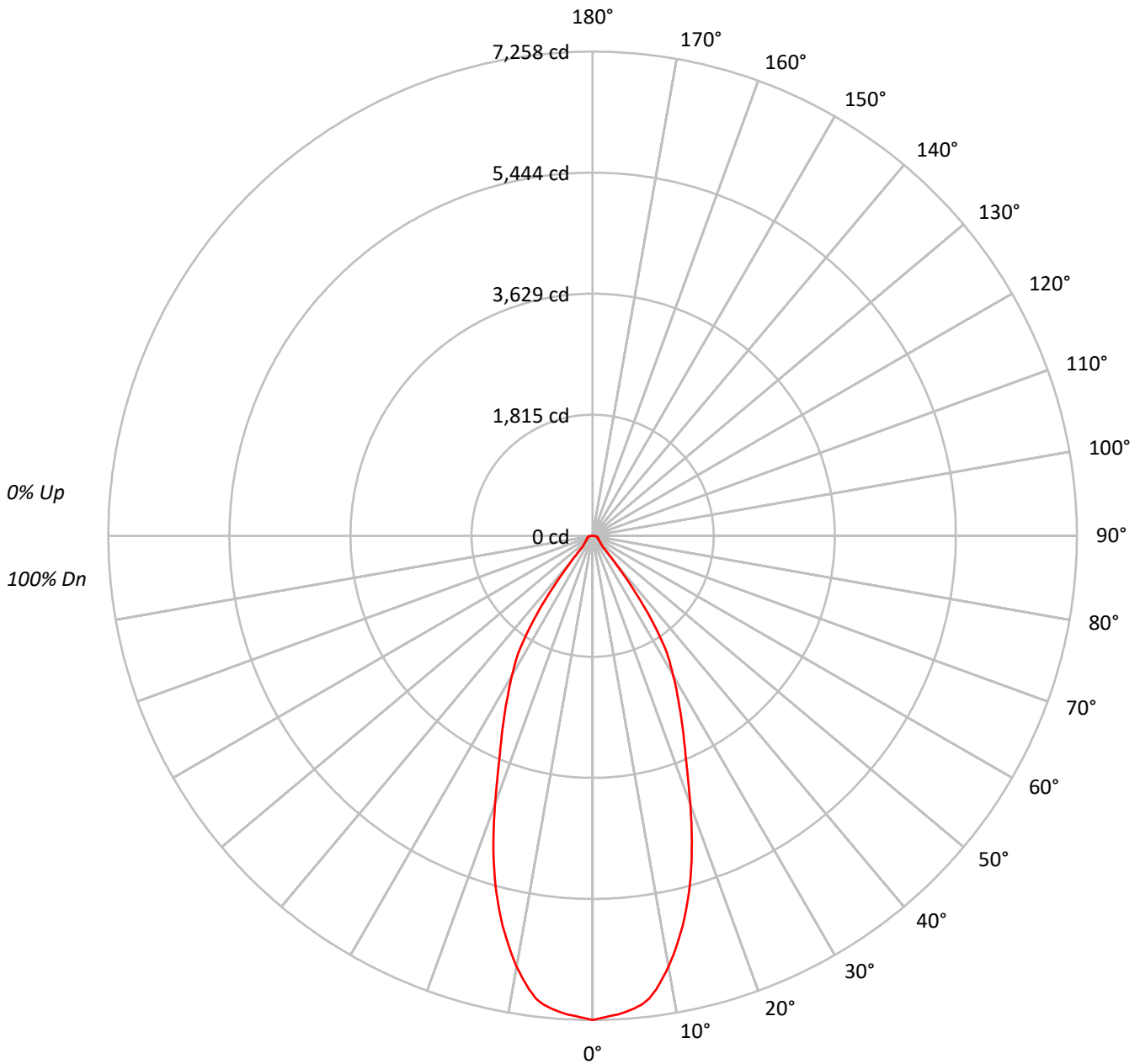
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P434852

CATALOG NUMBER: HCMR4R40940ED010MMS

### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
RC	80									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	0																
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°	3580998
5°	3523408
10°	3284796
15°	2841339
20°	2245401
25°	1738110
30°	1375782
35°	926345
40°	304126
45°	128664
50°	110452
55°	100555
60°	97590
65°	104952
70°	110210
75°	137252
80°	166214
85°	25474



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	662.4	13.2
10°-20°	1526.8	30.3
20°-30°	1475.0	29.3
30°-40°	917.8	18.2
40°-50°	167.6	3.3
50°-60°	105.5	2.1
60°-70°	87.4	1.7
70°-80°	74.9	1.5
80°-90°	18.9	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°	3664.2	72.8
0°-40°	4582.0	91.0
0°-60°	4855.1	96.4
0°-90°	5036.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5036.3	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	7258	
5°	7114	662
15°	5563	1527
25°	3193	1475
35°	1538	918
45°	184	168
55°	117	106
65°	90	87
75°	72	75
85°	4	19
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	7258.1
1°	7231.1
2°	7204.1
3°	7186.1
4°	7154.7
5°	7114.2
6°	7064.7
7°	6988.3
8°	6862.4
9°	6714.0
10°	6556.6
11°	6381.2
12°	6192.3
13°	5998.9
14°	5787.6
15°	5562.7
16°	5324.4
17°	5072.6
18°	4811.7
19°	4546.4
20°	4276.6
21°	4020.3
22°	3777.4
23°	3561.6
24°	3372.7
25°	3192.8
26°	3026.5
27°	2864.6
28°	2707.2
29°	2558.8
30°	2414.9
32.5°	2064.1
35°	1538.0
37.5°	957.9
40°	472.2
42.5°	224.8
45°	184.4
47.5°	161.9
50°	143.9
52.5°	125.9
55°	116.9
57.5°	107.9
60°	98.9



TEST NUMBER: P434852

CATALOG NUMBER: HCMR4R40940ED010MMS

**CANDELA DISTRIBUTION (continued):**

	0°
67.5°	80.9
70°	76.4
72.5°	76.4
75°	72.0
77.5°	67.5
80°	58.5
82.5°	36.0
85°	4.5
87.5°	0.0
90°	0.0



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— 0°-180°







62.5°		94.4
65°		89.9



(END OF REPORT)