

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: P434684

Luminaire Tested: **HCM4R15940ED010MMS**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434684  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-933-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/24/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCM4R15940ED010MMS  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 15 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5162.3 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 0.25 / 0.25 / 0.25  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

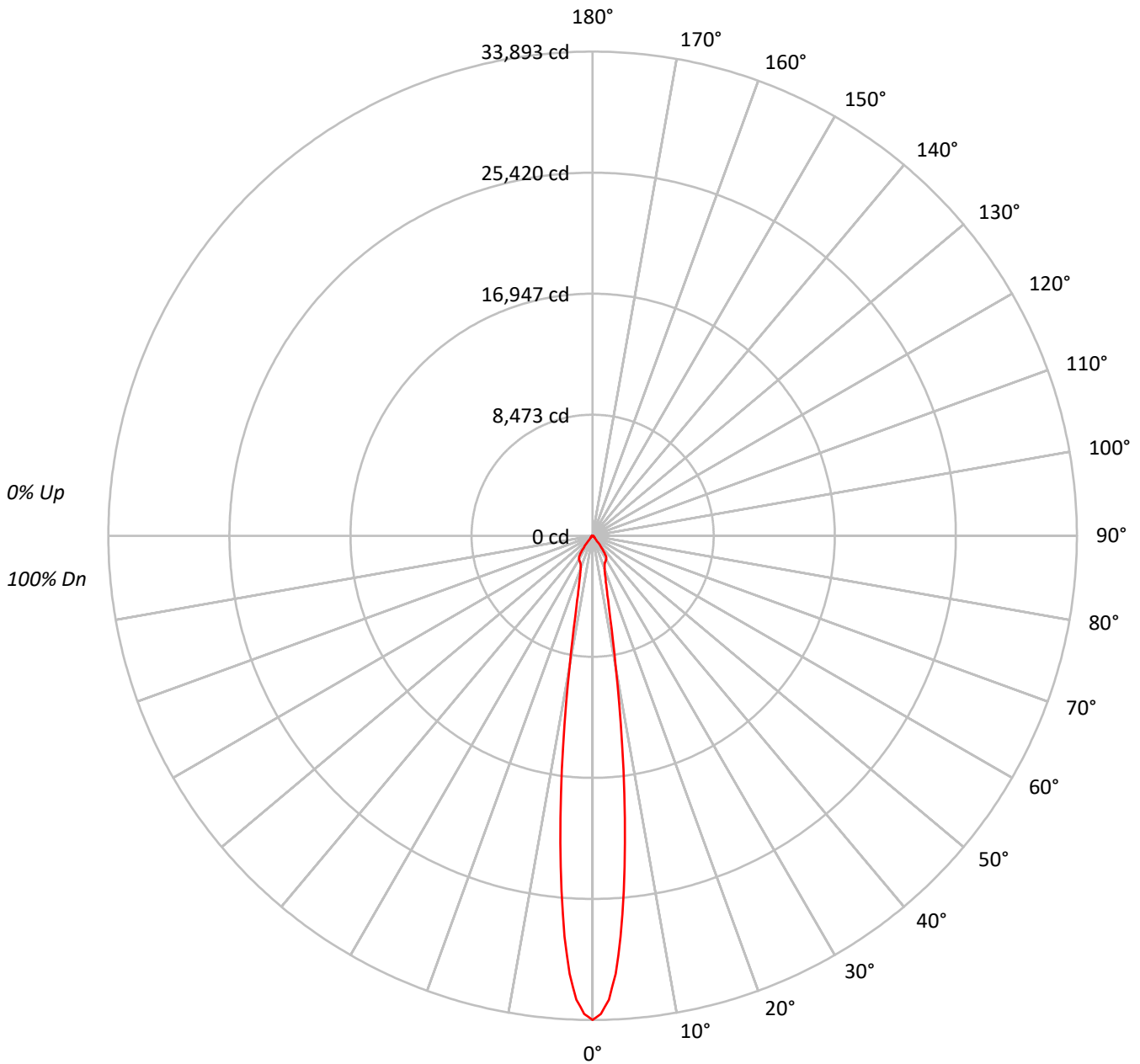
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100
1	114	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	95			95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	89			89
3	105	99	95	91	103	98	94	90	95	92	89	93	90	88	91	88	86	85			85
4	101	94	89	86	99	93	88	85	91	87	84	89	86	83	87	84	82	81			81
5	97	90	85	81	95	89	84	81	87	83	80	85	82	79	84	81	79	77			77
6	93	86	81	77	92	85	80	77	83	79	76	82	79	76	81	78	75	74			74
7	90	82	77	74	89	82	77	73	80	76	73	79	75	73	78	75	72	71			71
8	87	79	74	71	86	78	74	70	77	73	70	77	73	70	76	72	70	68			68
9	84	76	71	68	83	76	71	68	75	71	68	74	70	67	73	70	67	66			66
10	81	74	69	66	81	73	69	66	72	68	65	72	68	65	71	68	65	64			64

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

	0°
0°	16722162
5°	12371848
10°	4665777
15°	1917943
20°	1286777
25°	1118764
30°	1083694
35°	845034
40°	283838
45°	138084
50°	120814
55°	85072
60°	75388
65°	73548
70°	77897
75°	102939
80°	127857
85°	25474



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1839.9	35.6
10°-20°	1157.1	22.4
20°-30°	963.5	18.7
30°-40°	804.5	15.6
40°-50°	170.8	3.3
50°-60°	94.1	1.8
60°-70°	62.9	1.2
70°-80°	54.7	1.1
80°-90°	14.7	0.3
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°	3960.6	76.7
0°-40°	4765.1	92.3
0°-60°	5030.0	97.4
0°-90°	5162.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5162.3	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	33893	
5°	24980	###
15°	3755	1157
25°	2055	964
35°	1403	804
45°	198	171
55°	99	94
65°	63	63
75°	54	55
85°	4	15
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	33893.1
1°	33483.9
2°	32490.1
3°	30713.8
4°	28128.1
5°	24980.3
6°	21612.1
7°	18185.5
8°	14835.3
9°	11871.8
10°	9313.1
11°	7343.4
12°	5949.4
13°	4973.6
14°	4276.6
15°	3754.9
16°	3354.7
17°	3044.4
18°	2801.6
19°	2612.7
20°	2450.8
22.5°	2176.5
25°	2055.1
26°	2019.1
27°	1992.1
28°	1965.1
29°	1933.7
30°	1902.2
32.5°	1776.3
35°	1403.0
37.5°	894.9
40°	440.7
42.5°	211.4
45°	197.9
47.5°	184.4
50°	157.4
52.5°	121.4
55°	98.9
57.5°	85.4
60°	76.4
62.5°	67.5
65°	63.0
67.5°	58.5



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**CANDELA DISTRIBUTION (continued):**

	0°
75°	54.0
77.5°	49.5
80°	45.0
82.5°	27.0
85°	4.5
87.5°	0.0
90°	0.0



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— 0°-180°







70°		54.0
72.5°		54.0



(END OF REPORT)