

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: P434678

Luminaire Tested: **HCM4R15930ED010MMS**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434678  
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: HCM4R15930ED010MMS  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 15 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4768.4 lumens  
Efficiency: N/A  
Efficacy: 88.1 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

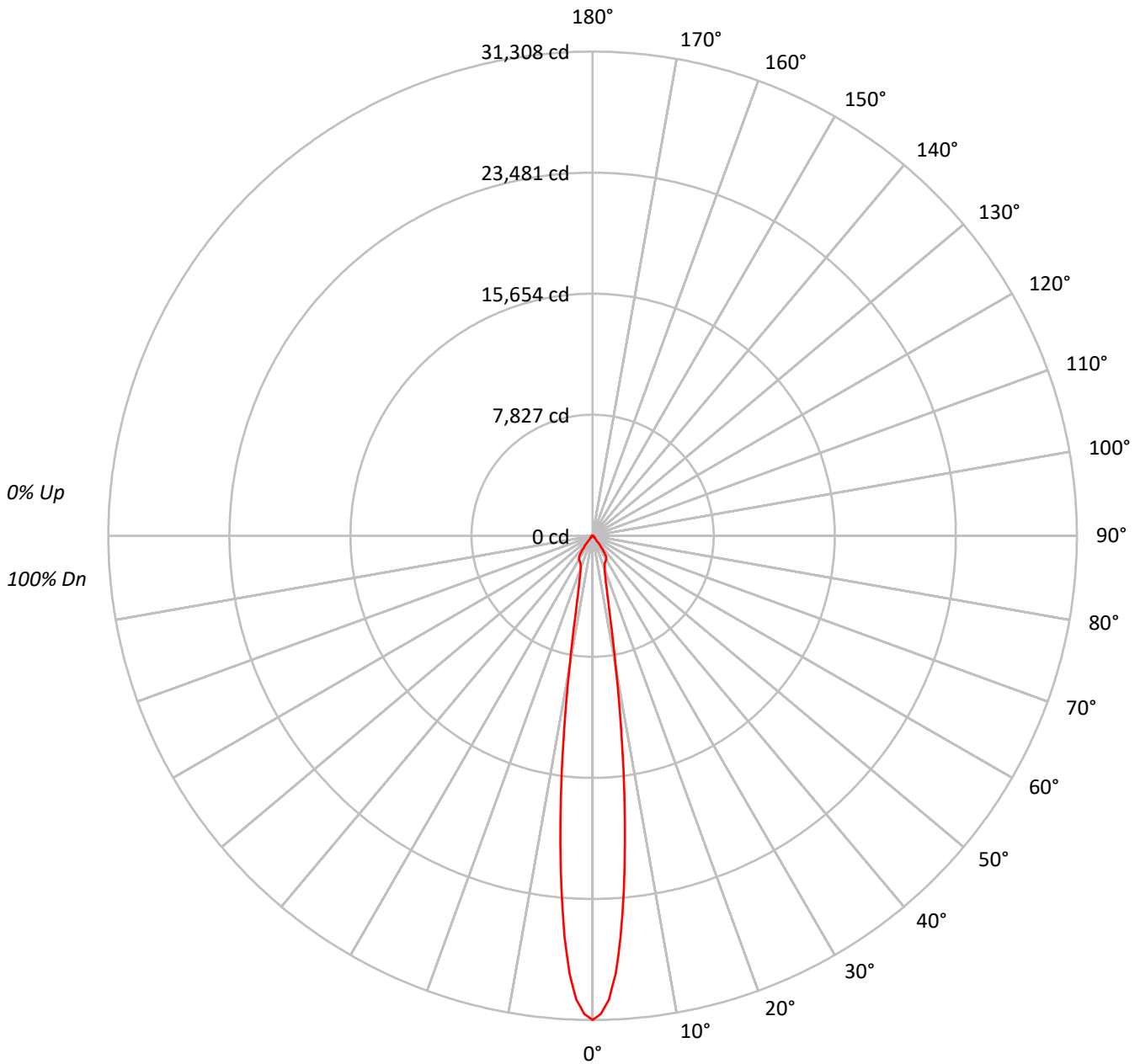
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°
0°	15446530
5°	11428072
10°	4309823
15°	1771655
20°	1188646
25°	1033404
30°	1001030
35°	780588
40°	262197
45°	127548
50°	111604
55°	78621
60°	69665
65°	67945
70°	71839
75°	94932
80°	117912
85°	23776



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1699.5	35.6
10°-20°	1068.9	22.4
20°-30°	890.0	18.7
30°-40°	743.1	15.6
40°-50°	157.8	3.3
50°-60°	87.0	1.8
60°-70°	58.1	1.2
70°-80°	50.5	1.1
80°-90°	13.5	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°	3658.4	76.7
0°-40°	4401.6	92.3
0°-60°	4646.3	97.4
0°-90°	4768.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4768.4	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	31308	
5°	23075	###
15°	3468	1069
25°	1898	890
35°	1296	743
45°	183	158
55°	91	87
65°	58	58
75°	50	50
85°	4	14
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	31307.6
1°	30929.6
2°	30011.6
3°	28370.9
4°	25982.4
5°	23074.7
6°	19963.4
7°	16798.2
8°	13703.6
9°	10966.2
10°	8602.6
11°	6783.3
12°	5495.6
13°	4594.2
14°	3950.3
15°	3468.5
16°	3098.8
17°	2812.2
18°	2587.9
19°	2413.4
20°	2263.9
22.5°	2010.5
25°	1898.3
26°	1865.1
27°	1840.2
28°	1815.2
29°	1786.2
30°	1757.1
32.5°	1640.8
35°	1296.0
37.5°	826.6
40°	407.1
42.5°	195.2
45°	182.8
47.5°	170.3
50°	145.4
52.5°	112.2
55°	91.4
57.5°	78.9
60°	70.6
62.5°	62.3
65°	58.2
67.5°	54.0



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**CANDELA DISTRIBUTION (continued):**

	0°
75°	49.8
77.5°	45.7
80°	41.5
82.5°	24.9
85°	4.2
87.5°	0.0
90°	0.0



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— 0°-180°







70°		49.8
72.5°		49.8



(END OF REPORT)