

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: P434825

Luminaire Tested: **HCMR4R15935ED010MMS**

Issue Date: 11/24/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P434825  
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: HCMR4R15935ED010MMS  
Description: HALO COMMERCIAL 4INCH ADJUSTABLE MULTIPLE, 15 DEG REFLECTOR OPTIC  
Light Source: HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5014.1 lumens  
Efficiency: N/A  
Efficacy: 92.7 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

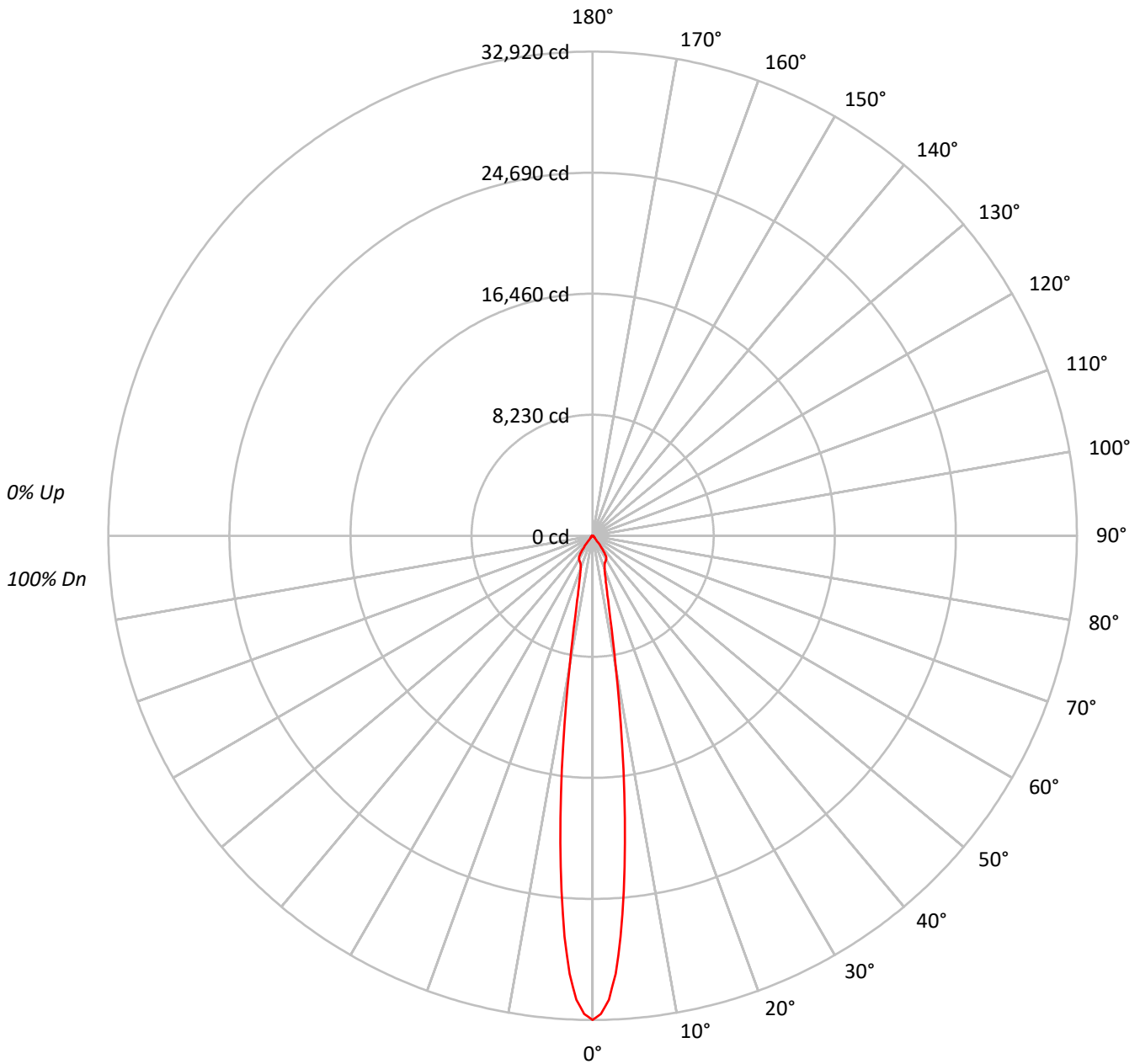
Input Watts (W): 54.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	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°	16242252
5°	12016743
10°	4531862
15°	1862881
20°	1249866
25°	1086645
30°	1052588
35°	820822
40°	275658
45°	134106
50°	117360
55°	82663
60°	73316
65°	71330
70°	75589
75°	99889
80°	124163
85°	24908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1787.1	35.6
10°-20°	1123.9	22.4
20°-30°	935.9	18.7
30°-40°	781.4	15.6
40°-50°	165.9	3.3
50°-60°	91.4	1.8
60°-70°	61.1	1.2
70°-80°	53.1	1.1
80°-90°	14.2	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°	3846.9	76.7
0°-40°	4628.3	92.3
0°-60°	4885.6	97.4
0°-90°	5014.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5014.1	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	32920	
5°	24263	###
15°	3647	1124
25°	1996	936
35°	1363	781
45°	192	166
55°	96	91
65°	61	61
75°	52	53
85°	4	14
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	32920.4
1°	32522.9
2°	31557.6
3°	29832.3
4°	27320.8
5°	24263.3
6°	20991.8
7°	17663.5
8°	14409.5
9°	11531.1
10°	9045.8
11°	7132.7
12°	5778.6
13°	4830.8
14°	4153.8
15°	3647.1
16°	3258.4
17°	2957.0
18°	2721.2
19°	2537.7
20°	2380.5
22.5°	2114.0
25°	1996.1
26°	1961.2
27°	1935.0
28°	1908.7
29°	1878.2
30°	1847.6
32.5°	1725.3
35°	1362.8
37.5°	869.2
40°	428.0
42.5°	205.3
45°	192.2
47.5°	179.1
50°	152.9
52.5°	117.9
55°	96.1
57.5°	83.0
60°	74.3
62.5°	65.5
65°	61.1
67.5°	56.8



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**CANDELA DISTRIBUTION (continued):**

	0°
75°	52.4
77.5°	48.0
80°	43.7
82.5°	26.2
85°	4.4
87.5°	0.0
90°	0.0



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— 0°-180°







70°		52.4
72.5°		52.4



(END OF REPORT)