

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: P592902

Luminaire Tested: **HC450D010-HM44560950-41WDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592902  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-9)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560950-41WDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4080.4 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.04  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

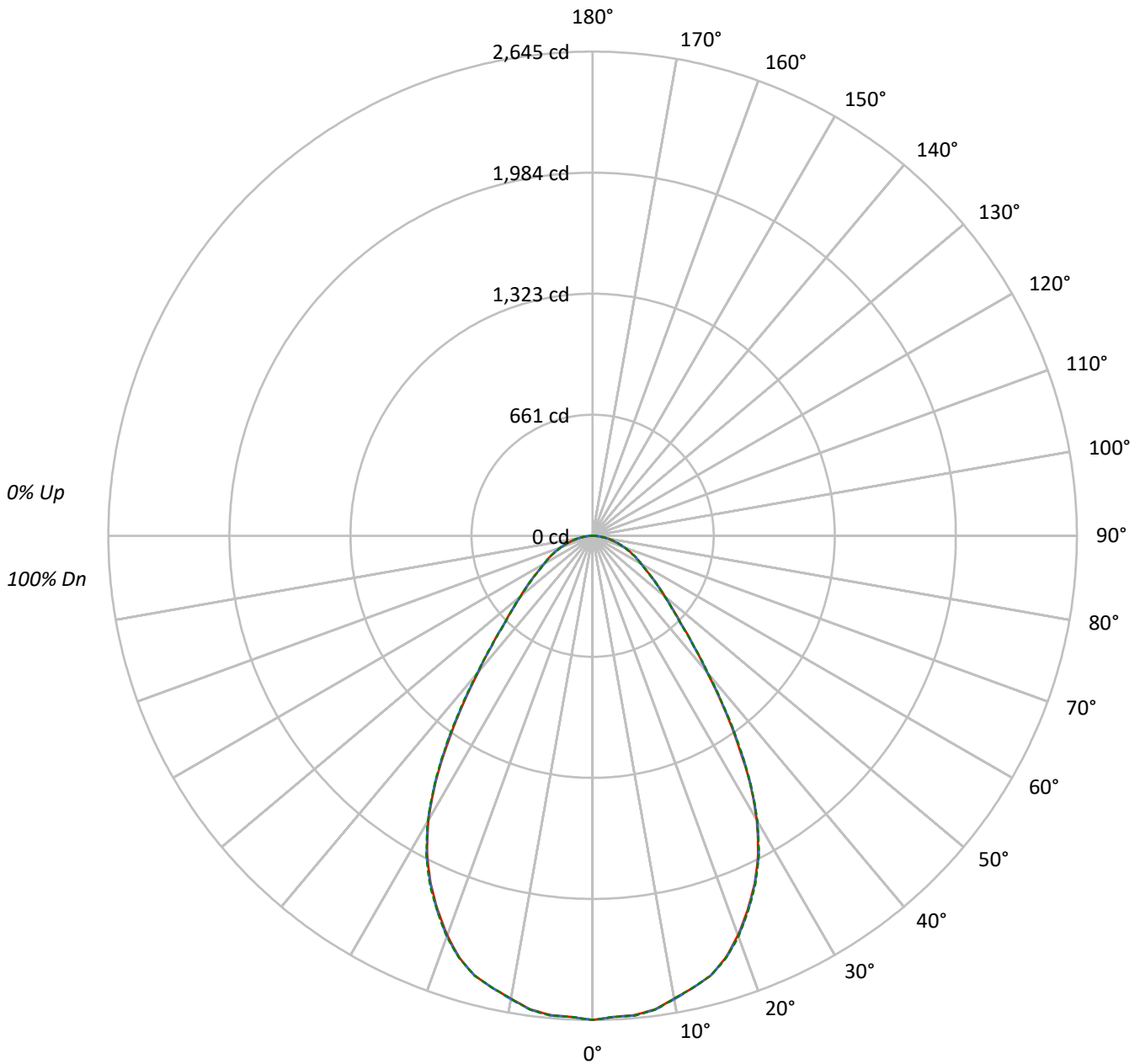
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89																			
2	103	97	91	87	101	95	90	86	91	87	84	88	85	82	85	83	80	78																			
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69																			
4	90	80	72	67	87	78	72	66	76	70	66	74	69	65	72	68	64	62																			
5	84	73	65	60	82	72	65	59	70	64	59	68	63	58	66	62	58	56																			
6	78	67	59	54	77	66	59	54	64	58	53	63	57	53	61	56	53	51																			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46																			
8	69	57	50	45	68	57	50	45	55	49	45	54	49	44	53	48	44	42																			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39																			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36																			

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

	0°	45°	90°
0°	326200	326200	326200
5°	325415	325750	325750
10°	321625	321976	321625
15°	317773	317773	317773
20°	304737	305446	305813
25°	285028	285409	286144
30°	255401	256184	256184
35°	207360	209016	209408
40°	156476	157377	157812
45°	119856	119402	119402
50°	98747	98249	98249
55°	84771	84191	84191
60°	75636	74969	74969
65°	71126	71126	71126
70°	66141	66141	66141
75°	60048	61287	60048
80°	56399	54410	56399
85°	46561	46561	46561



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	249.2	6.1
10°-20°	697.3	17.1
20°-30°	958.2	23.5
30°-40°	861.5	21.1
40°-50°	544.4	13.3
50°-60°	355.4	8.7
60°-70°	240.8	5.9
70°-80°	135.5	3.3
80°-90°	38.1	0.9
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°	1904.6	46.7
0°-40°	2766.2	67.8
0°-60°	3666.0	89.8
0°-90°	4080.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4080.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2645	2645	2645	2645	2645	
5°	2628	2628	2631	2631	2631	249
15°	2488	2488	2488	2488	2488	697
25°	2094	2097	2097	2102	2102	956
35°	1377	1382	1388	1394	1391	857
45°	687	684	684	684	684	545
55°	394	394	392	394	392	357
65°	244	244	244	244	244	241
75°	126	129	129	129	126	135
85°	33	33	33	33	33	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2644.6	2644.6	2644.6	2644.6	2644.6
2.5°	2630.9	2630.9	2630.9	2630.9	2630.9
5°	2628.2	2628.2	2630.9	2630.9	2630.9
7.5°	2609.0	2611.7	2611.7	2611.7	2611.7
10°	2567.9	2567.9	2570.7	2570.7	2567.9
12.5°	2529.6	2529.6	2529.6	2532.4	2529.6
15°	2488.5	2488.5	2488.5	2488.5	2488.5
17.5°	2417.4	2420.1	2420.1	2420.1	2420.1
20°	2321.6	2327.0	2327.0	2329.8	2329.8
22.5°	2212.0	2214.8	2217.5	2220.3	2217.5
25°	2094.3	2097.1	2097.1	2102.5	2102.5
27.5°	1957.5	1960.2	1965.7	1965.7	1965.7
30°	1793.2	1795.9	1798.7	1798.7	1798.7
32.5°	1598.8	1598.8	1604.3	1607.0	1604.3
35°	1377.1	1382.5	1388.1	1393.5	1390.7
37.5°	1166.2	1171.8	1174.5	1174.5	1177.2
40°	971.8	977.4	977.4	982.8	980.1
42.5°	818.6	815.9	815.9	821.3	818.6
45°	687.1	684.5	684.5	684.5	684.5
47.5°	591.4	588.6	588.6	588.6	588.6
50°	514.6	512.0	512.0	512.0	512.0
52.5°	451.8	449.0	449.0	449.0	446.2
55°	394.2	394.2	391.5	394.2	391.5
57.5°	342.2	342.2	342.2	342.2	342.2
60°	306.6	303.9	303.9	303.9	303.9
62.5°	273.8	273.8	273.8	273.8	273.8
65°	243.7	243.7	243.7	243.7	243.7
67.5°	213.5	210.8	213.5	213.5	210.8
70°	183.4	180.7	183.4	183.4	183.4
72.5°	153.3	153.3	153.3	156.1	153.3
75°	126.0	128.6	128.6	128.6	126.0
77.5°	101.3	104.1	101.3	101.3	101.3
80°	79.4	76.6	76.6	76.6	79.4
82.5°	54.8	54.8	54.8	54.8	54.8
85°	32.9	32.9	32.9	32.9	32.9
87.5°	13.7	13.7	13.7	13.7	13.7
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)