

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: P580951

Luminaire Tested: **HC450D010-HM44560935-41WDW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580951  
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-HM44560935-41WDW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4112.4 lumens  
Efficiency: N/A  
Efficacy: 85.7 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

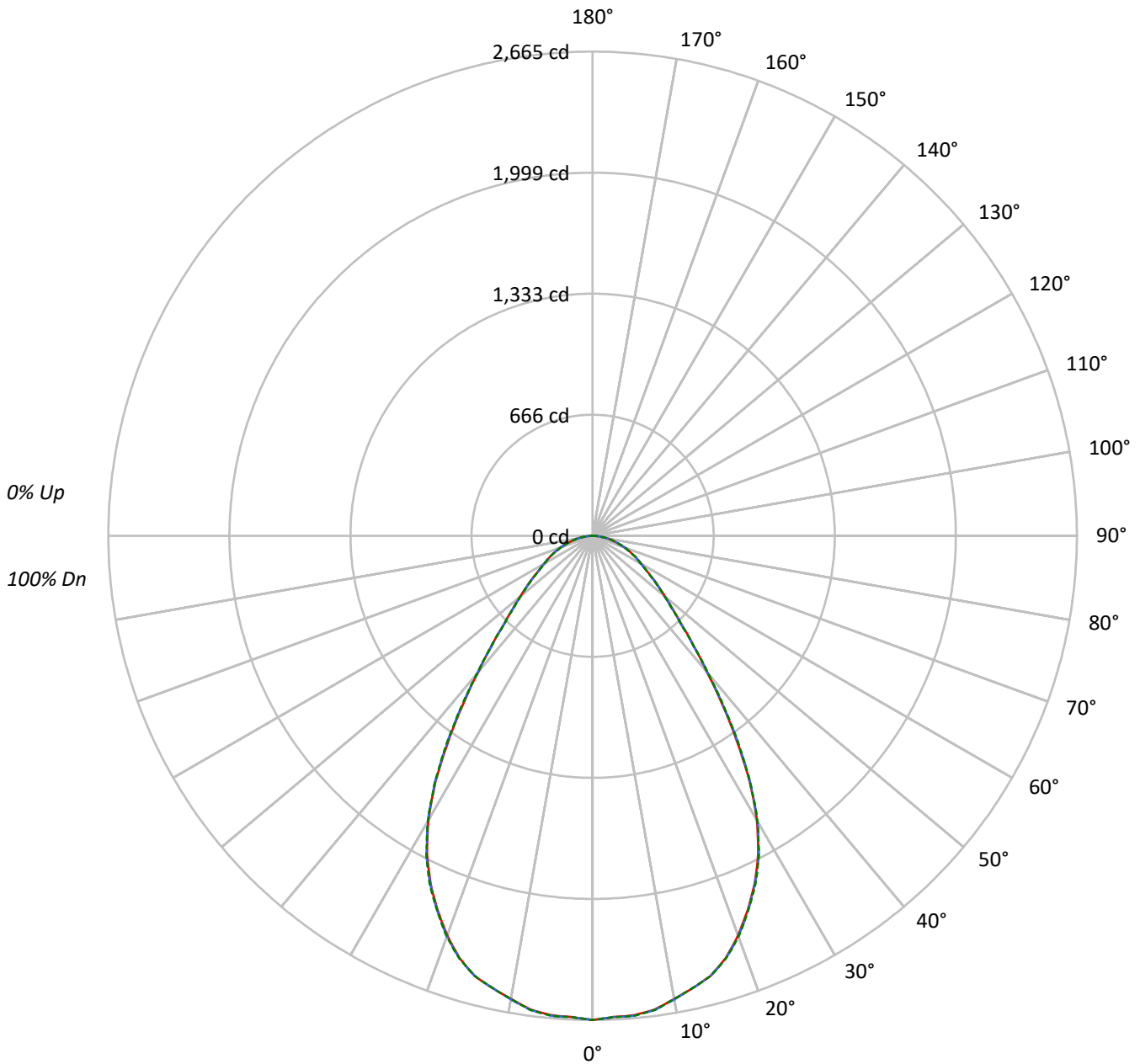
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	328765	328765	328765
5°	327966	328313	328313
10°	324168	324506	324168
15°	320276	320276	320276
20°	307139	307848	308216
25°	287273	287654	288403
30°	257409	258192	258192
35°	208971	210642	211064
40°	157715	158601	159052
45°	120798	120327	120327
50°	99534	99016	99016
55°	85438	84836	84836
60°	76252	75562	75562
65°	71652	71652	71652
70°	66682	66682	66682
75°	60525	61764	60525
80°	56826	54908	56826
85°	46844	46844	46844



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	251.1	6.1
10°-20°	702.8	17.1
20°-30°	965.7	23.5
30°-40°	868.3	21.1
40°-50°	548.6	13.3
50°-60°	358.2	8.7
60°-70°	242.7	5.9
70°-80°	136.6	3.3
80°-90°	38.4	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°	1919.6	46.7
0°-40°	2787.9	67.8
0°-60°	3694.7	89.8
0°-90°	4112.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4112.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2665	2665	2665	2665	2665	
5°	2649	2649	2652	2652	2652	251
15°	2508	2508	2508	2508	2508	702
25°	2111	2114	2114	2119	2119	963
35°	1388	1393	1399	1404	1402	864
45°	692	690	690	690	690	549
55°	397	397	394	397	394	360
65°	246	246	246	246	246	243
75°	127	130	130	130	127	136
85°	33	33	33	33	33	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2665.4	2665.4	2665.4	2665.4	2665.4
2.5°	2651.6	2651.6	2651.6	2651.6	2651.6
5°	2648.8	2648.8	2651.6	2651.6	2651.6
7.5°	2629.6	2632.3	2632.3	2632.3	2632.3
10°	2588.2	2588.2	2590.9	2590.9	2588.2
12.5°	2549.5	2549.5	2549.5	2552.3	2549.5
15°	2508.1	2508.1	2508.1	2508.1	2508.1
17.5°	2436.4	2439.2	2439.2	2439.2	2439.2
20°	2339.9	2345.3	2345.3	2348.1	2348.1
22.5°	2229.5	2232.3	2234.9	2237.7	2234.9
25°	2110.8	2113.6	2113.6	2119.1	2119.1
27.5°	1972.9	1975.6	1981.1	1981.1	1981.1
30°	1807.3	1810.1	1812.8	1812.8	1812.8
32.5°	1611.3	1611.3	1616.9	1619.7	1616.9
35°	1387.8	1393.4	1398.9	1404.5	1401.7
37.5°	1175.4	1180.9	1183.7	1183.7	1186.5
40°	979.5	985.0	985.0	990.5	987.8
42.5°	825.0	822.3	822.3	827.8	825.0
45°	692.5	689.8	689.8	689.8	689.8
47.5°	596.0	593.2	593.2	593.2	593.2
50°	518.7	516.0	516.0	516.0	516.0
52.5°	455.3	452.5	452.5	452.5	449.8
55°	397.3	397.3	394.5	397.3	394.5
57.5°	344.9	344.9	344.9	344.9	344.9
60°	309.1	306.3	306.3	306.3	306.3
62.5°	276.0	276.0	276.0	276.0	276.0
65°	245.5	245.5	245.5	245.5	245.5
67.5°	215.2	212.4	215.2	215.2	212.4
70°	184.9	182.1	184.9	184.9	184.9
72.5°	154.5	154.5	154.5	157.3	154.5
75°	127.0	129.6	129.6	129.6	127.0
77.5°	102.1	104.8	102.1	102.1	102.1
80°	80.0	77.3	77.3	77.3	80.0
82.5°	55.2	55.2	55.2	55.2	55.2
85°	33.1	33.1	33.1	33.1	33.1
87.5°	13.8	13.8	13.8	13.8	13.8
90°	0.0	0.0	0.0	0.0	0.0



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







(END OF REPORT)