

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: P580882

Luminaire Tested: **HC450D010-HM44560835-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580882  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560835-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3817.3 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

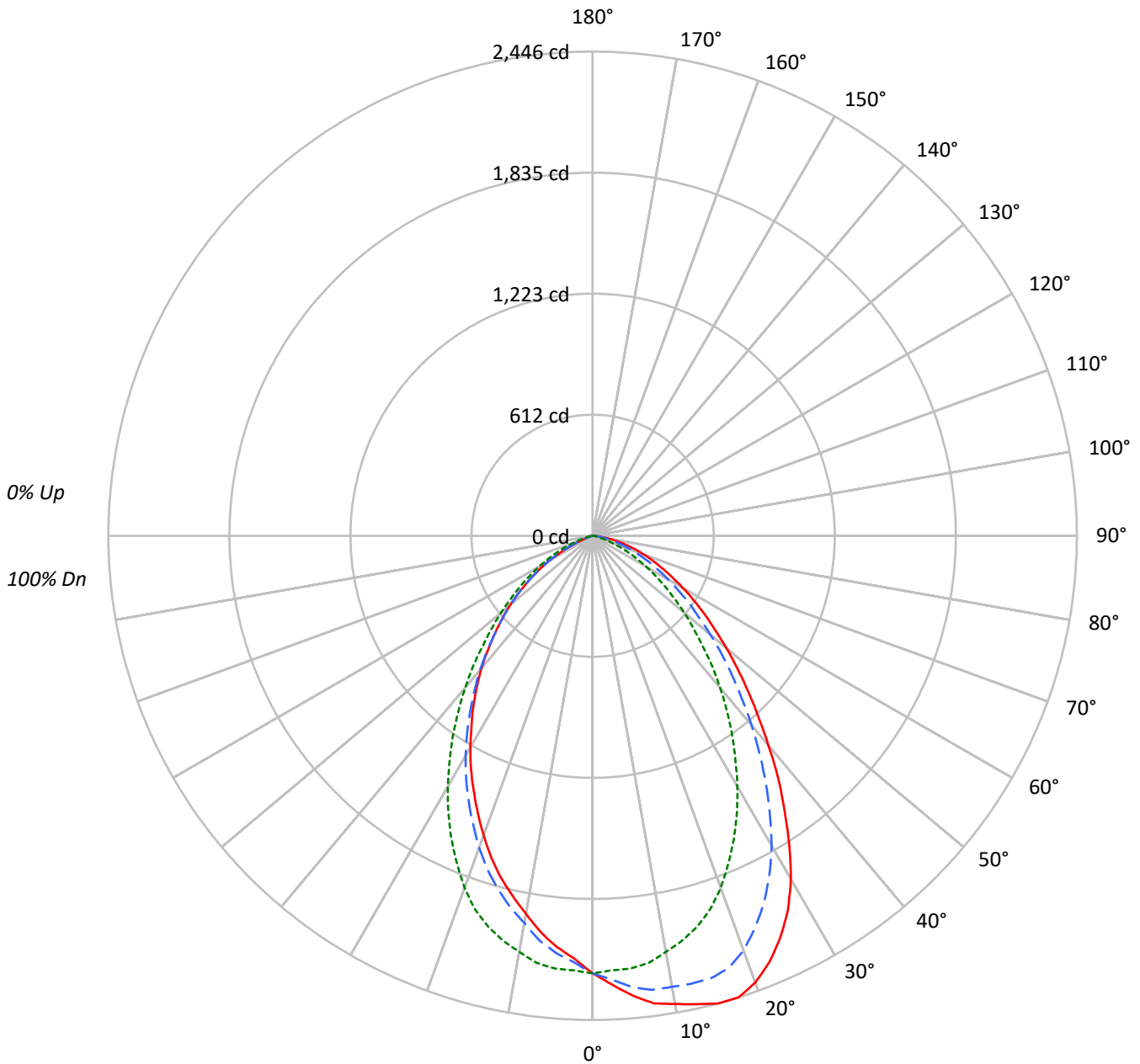
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	104	101	109	105	102	100	101	99	97	97	95	94	94	92	91	89																			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	85	83	80	78																			
3	96	87	80	75	94	86	79	74	83	78	73	80	76	72	78	74	71	69																			
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61																			
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55																			
6	77	66	58	52	75	65	57	52	63	57	52	61	56	51	60	55	51	49																			
7	72	60	53	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	53	47	42	51	46	42	40																			
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	43	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	36	34																			

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

	0°	90°	180°
0°	272594	272594	272594
5°	288815	271691	258071
10°	300809	267343	242932
15°	312308	260923	228411
20°	315251	248400	211279
25°	305061	229759	193380
30°	285211	208200	175955
35°	254204	185074	158106
40°	222219	160952	140728
45°	193573	136549	121740
50°	168903	115807	104370
55°	148038	95975	84513
60°	129488	77560	62043
65°	112863	57788	34848
70°	98635	37398	11324
75°	80874	19444	3002
80°	60306	8950	2202
85°	35522	4387	4387



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.6	5.5
10°-20°	583.7	15.3
20°-30°	807.1	21.1
30°-40°	811.6	21.3
40°-50°	654.9	17.2
50°-60°	442.8	11.6
60°-70°	225.4	5.9
70°-80°	72.2	1.9
80°-90°	11.0	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°	1599.5	41.9
0°-40°	2411.0	63.2
0°-60°	3508.7	91.9
0°-90°	3817.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3817.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2210	2210	2210	2210	2210	
5°	2333	2289	2194	2116	2084	225
15°	2446	2314	2043	1848	1789	689
25°	2242	2046	1688	1481	1421	1026
35°	1688	1525	1229	1075	1050	1055
45°	1110	993	783	698	698	860
55°	688	594	446	390	393	618
65°	387	314	198	129	119	388
75°	170	119	41	9	6	183
85°	25	13	3	3	3	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0
2.5°	2269.7	2257.2	2244.6	2222.5	2197.4	2172.3	2156.5	2143.9	2137.6
5°	2332.6	2316.8	2288.6	2241.5	2194.3	2150.2	2115.7	2093.7	2084.3
7.5°	2382.8	2360.9	2313.7	2247.7	2175.4	2106.2	2062.2	2030.8	2018.2
10°	2401.7	2376.6	2313.7	2225.7	2134.5	2049.6	1986.7	1955.3	1939.6
12.5°	2423.8	2395.4	2316.8	2206.8	2093.7	1993.0	1920.8	1879.9	1864.2
15°	2445.7	2408.1	2313.7	2178.6	2043.3	1927.1	1848.5	1807.6	1788.7
17.5°	2445.7	2401.7	2288.6	2131.4	1977.3	1854.8	1766.7	1719.6	1703.9
20°	2401.7	2351.4	2228.8	2055.9	1892.4	1760.5	1675.6	1628.4	1609.6
22.5°	2332.6	2276.0	2143.9	1964.8	1791.9	1662.9	1578.1	1534.1	1515.3
25°	2241.5	2184.8	2046.5	1861.0	1688.2	1559.2	1480.6	1439.8	1420.9
27.5°	2134.5	2071.6	1933.4	1747.8	1578.1	1455.5	1383.2	1345.4	1329.7
30°	2002.5	1942.8	1807.6	1625.3	1461.8	1348.7	1282.6	1248.0	1235.4
32.5°	1848.5	1798.1	1666.1	1496.3	1342.3	1238.6	1178.8	1150.6	1138.0
35°	1688.2	1641.0	1524.7	1367.5	1229.1	1131.7	1075.1	1056.3	1050.0
37.5°	1537.2	1496.3	1383.2	1238.6	1112.9	1028.0	977.7	965.1	958.8
40°	1380.1	1351.8	1248.0	1116.0	999.6	924.2	883.4	874.0	874.0
42.5°	1238.6	1207.2	1116.0	996.5	892.8	817.3	789.1	779.7	782.8
45°	1109.7	1078.2	993.4	883.4	782.8	719.9	697.9	697.9	697.9
47.5°	990.2	962.0	883.4	770.1	688.4	638.2	616.2	616.2	619.3
50°	880.2	861.4	773.4	675.8	603.5	556.4	540.7	537.6	543.9
52.5°	776.4	754.4	675.8	587.8	518.7	481.0	465.3	462.1	465.3
55°	688.4	663.3	594.1	509.2	446.3	408.7	389.8	386.7	393.0
57.5°	603.5	584.7	512.4	436.9	377.3	339.5	323.8	317.5	320.7
60°	524.9	506.1	440.1	367.9	314.4	276.6	254.6	248.3	251.5
62.5°	452.7	436.9	374.1	305.0	251.5	216.9	194.9	179.2	185.4
65°	386.7	371.0	314.4	245.2	198.0	160.3	128.9	116.3	119.4
67.5°	330.1	311.2	257.8	194.9	147.8	106.9	72.3	66.0	66.0
70°	273.5	254.6	207.5	150.9	103.7	56.6	31.4	31.4	31.4
72.5°	220.1	204.4	160.3	113.1	66.0	25.1	12.6	12.6	12.6
75°	169.7	157.2	119.4	78.6	40.8	12.6	9.4	6.3	6.3
77.5°	125.8	113.1	84.9	53.5	25.1	6.3	6.3	6.3	6.3
80°	84.9	75.5	56.6	31.4	12.6	3.1	3.1	3.1	3.1
82.5°	50.3	44.1	31.4	15.7	6.3	3.1	3.1	3.1	3.1
85°	25.1	18.8	12.6	6.3	3.1	3.1	3.1	3.1	3.1
87.5°	6.3	3.1	3.1	3.1	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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







(END OF REPORT)