

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: P580862

Luminaire Tested: **HC450D010-HM44560830-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580862  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560830-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4822.8 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

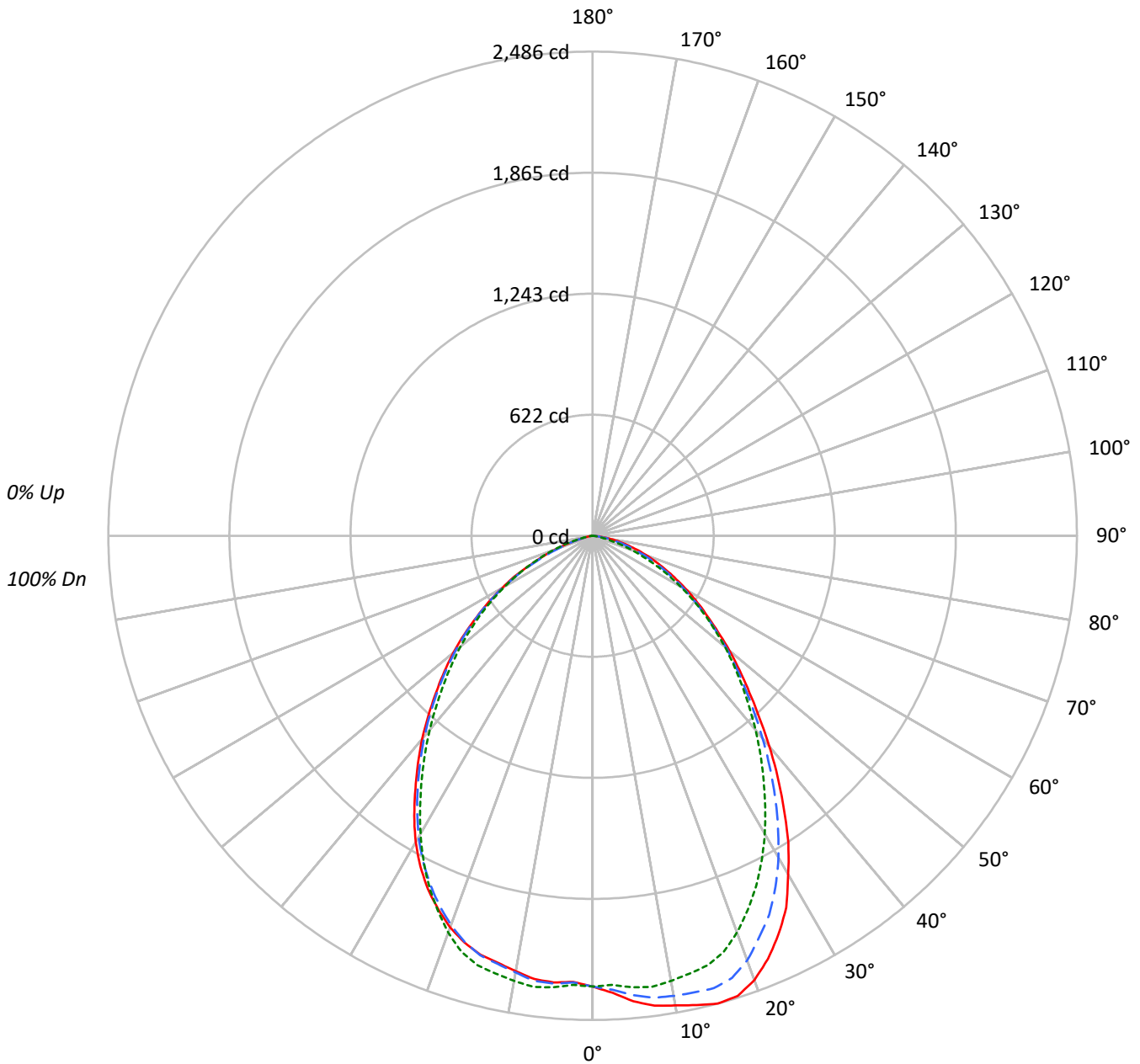
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76																			
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46																			
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41																			
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

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

	0°	90°	180°
0°	285471	285471	285471
5°	297024	288109	285014
10°	306721	290652	284389
15°	317505	291545	284355
20°	318572	284497	280808
25°	307320	270288	272425
30°	285980	251683	258805
35°	257607	230278	238770
40°	227113	209498	219063
45°	198579	188758	198038
50°	175850	169824	178843
55°	154683	149973	156038
60°	138098	128082	131930
65°	121414	104077	102239
70°	106028	76708	69928
75°	87927	46227	37268
80°	66699	17758	11081
85°	30994	4387	4387



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.2	4.6
10°-20°	651.4	13.5
20°-30°	943.4	19.6
30°-40°	995.3	20.6
40°-50°	861.4	17.9
50°-60°	638.1	13.2
60°-70°	367.8	7.6
70°-80°	128.5	2.7
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°	1818.1	37.7
0°-40°	2813.4	58.3
0°-60°	4313.0	89.4
0°-90°	4822.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4822.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2314	2314	2314	2314	2314	
5°	2399	2368	2327	2308	2302	230
15°	2486	2405	2283	2230	2227	699
25°	2258	2146	1986	1973	2002	1033
35°	1711	1633	1529	1564	1586	1069
45°	1138	1107	1082	1123	1135	884
55°	719	704	697	722	726	649
65°	416	391	357	338	350	416
75°	184	156	97	78	78	199
85°	22	12	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°	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4	2314.4
2.5°	2348.8	2342.5	2333.1	2320.6	2308.1	2298.8	2295.6	2292.5	2292.5
5°	2398.9	2386.4	2367.5	2342.5	2326.9	2317.5	2308.1	2301.9	2301.9
7.5°	2433.2	2420.7	2392.6	2358.1	2336.3	2317.5	2305.0	2295.6	2295.6
10°	2448.9	2433.2	2398.9	2355.0	2320.6	2295.6	2276.9	2270.6	2270.6
12.5°	2467.6	2448.9	2402.0	2345.6	2301.9	2270.6	2251.9	2245.5	2245.5
15°	2486.4	2464.5	2405.1	2339.4	2283.1	2245.5	2229.9	2226.8	2226.8
17.5°	2477.0	2448.9	2380.0	2301.9	2239.4	2201.8	2186.1	2186.1	2189.3
20°	2427.0	2398.9	2320.6	2233.0	2167.4	2139.3	2126.8	2133.0	2139.3
22.5°	2351.9	2317.5	2233.0	2148.6	2079.8	2054.8	2054.8	2064.2	2073.5
25°	2258.1	2226.8	2145.5	2051.7	1986.0	1967.2	1973.4	1989.2	2001.7
27.5°	2151.8	2117.4	2032.9	1945.3	1879.7	1870.3	1885.9	1907.8	1914.1
30°	2007.9	1979.8	1907.8	1823.3	1767.1	1763.9	1785.8	1801.4	1817.1
32.5°	1870.3	1838.9	1770.2	1688.8	1648.2	1651.3	1676.3	1695.1	1704.6
35°	1710.8	1682.6	1632.6	1566.8	1529.3	1535.6	1563.7	1582.6	1585.7
37.5°	1560.6	1541.8	1491.8	1441.8	1413.6	1426.1	1451.2	1473.1	1473.1
40°	1410.5	1394.9	1357.4	1316.7	1301.1	1316.7	1341.7	1360.5	1360.5
42.5°	1266.6	1257.2	1226.0	1197.9	1188.5	1210.4	1232.2	1247.9	1244.7
45°	1138.4	1129.0	1107.1	1085.3	1082.1	1104.0	1122.8	1132.1	1135.3
47.5°	1022.8	1016.4	997.7	982.0	982.0	1003.9	1019.5	1029.0	1032.1
50°	916.4	910.1	894.5	881.9	885.0	907.0	919.5	928.9	932.0
52.5°	810.0	806.9	794.4	778.8	788.2	803.8	819.4	825.7	828.8
55°	719.3	719.3	703.7	691.2	697.4	713.1	722.4	725.6	725.6
57.5°	638.1	634.9	616.2	603.6	606.7	622.4	628.7	631.8	631.8
60°	559.8	556.7	537.9	519.2	519.2	528.6	531.7	534.8	534.8
62.5°	484.8	481.7	459.7	444.1	437.8	434.7	434.7	441.0	453.5
65°	416.0	412.8	391.0	366.0	356.6	347.2	337.7	344.1	350.3
67.5°	353.5	347.2	325.2	303.3	281.5	265.8	250.2	259.6	272.1
70°	294.0	287.7	262.7	237.7	212.7	187.6	175.1	187.6	193.9
72.5°	237.7	231.5	206.5	181.4	150.1	125.1	122.0	125.1	128.2
75°	184.5	181.4	156.4	128.2	97.0	78.2	78.2	78.2	78.2
77.5°	137.6	131.4	106.4	81.4	56.3	43.8	40.6	40.6	40.6
80°	93.9	87.6	65.6	46.9	25.0	18.8	18.8	15.6	15.6
82.5°	53.1	50.0	34.4	18.8	9.4	6.3	6.3	6.3	6.3
85°	21.9	18.8	12.5	6.3	3.1	3.1	3.1	3.1	3.1
87.5°	3.1	3.1	3.1	0.0	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)