

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: P580920

Luminaire Tested: **HC450D010-HM44560927-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580920  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560927-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3688.4 lumens  
Efficiency: N/A  
Efficacy: 76.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

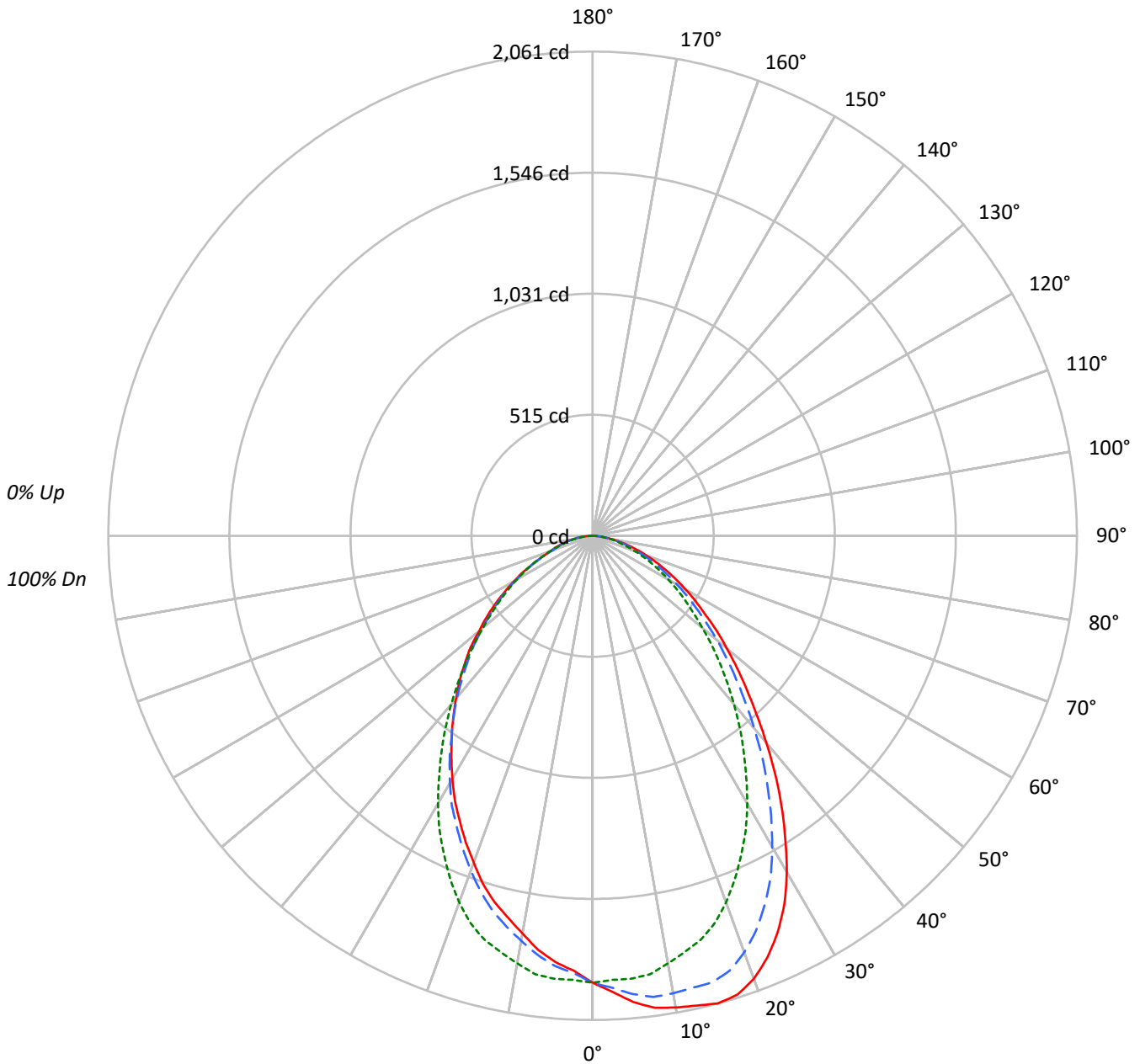
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66																			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58																			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51																			
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46																			
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

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

	0°	90°	180°
0°	234591	234591	234591
5°	246680	234274	225508
10°	255344	231472	215264
15°	263132	227275	206077
20°	263429	217921	194202
25°	253535	203683	182084
30°	235418	187420	170044
35°	211019	168737	157338
40°	185169	150566	145446
45°	161843	133305	134142
50°	142902	116670	120873
55°	125996	103437	108663
60°	112615	91547	95173
65°	99758	80524	80524
70°	87166	68666	68666
75°	74440	58189	65147
80°	58956	52066	58956
85°	38070	45004	55336



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.2	4.9
10°-20°	507.4	13.8
20°-30°	710.9	19.3
30°-40°	732.4	19.9
40°-50°	623.6	16.9
50°-60°	462.0	12.5
60°-70°	289.9	7.9
70°-80°	144.1	3.9
80°-90°	37.8	1.0
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°	1398.6	37.9
0°-40°	2131.0	57.8
0°-60°	3216.6	87.2
0°-90°	3688.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3688.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1902	1902	1902	1902	1902	
5°	1992	1958	1892	1838	1821	192
15°	2061	1968	1780	1650	1614	579
25°	1863	1734	1497	1367	1338	852
35°	1401	1296	1121	1047	1045	874
45°	928	864	764	750	769	720
55°	586	540	481	491	505	530
65°	342	308	276	271	276	341
75°	156	139	122	132	137	167
85°	27	27	32	37	39	35
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°	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9
2.5°	1943.3	1936.0	1926.3	1909.2	1892.1	1877.5	1862.9	1855.4	1853.0
5°	1992.3	1977.5	1958.1	1926.3	1892.1	1862.9	1838.4	1826.2	1821.3
7.5°	2026.4	2011.8	1980.0	1931.2	1882.3	1838.4	1799.3	1782.3	1777.4
10°	2038.7	2021.5	1977.5	1911.7	1848.1	1794.4	1750.5	1728.6	1718.7
12.5°	2048.4	2026.4	1970.2	1892.1	1814.0	1748.1	1701.7	1672.3	1665.0
15°	2060.6	2036.2	1967.8	1872.6	1779.8	1701.7	1650.4	1623.5	1613.8
17.5°	2048.4	2021.5	1940.9	1833.5	1728.6	1643.1	1586.9	1562.5	1552.8
20°	2006.9	1977.5	1887.2	1772.5	1660.2	1572.3	1516.1	1491.7	1479.5
22.5°	1943.3	1911.7	1818.9	1696.8	1582.0	1496.6	1442.9	1418.5	1411.2
25°	1862.9	1831.1	1733.5	1608.9	1496.6	1413.6	1367.3	1345.2	1337.9
27.5°	1767.7	1735.9	1640.7	1518.6	1411.2	1333.0	1296.4	1274.4	1269.5
30°	1652.9	1621.1	1528.3	1416.1	1315.9	1242.7	1213.4	1196.3	1193.9
32.5°	1525.9	1499.1	1413.6	1311.0	1215.8	1154.8	1132.8	1120.6	1118.2
35°	1401.4	1372.1	1296.4	1203.6	1120.6	1066.9	1047.3	1044.9	1044.9
37.5°	1274.4	1245.2	1184.0	1098.7	1027.8	979.0	971.7	974.2	974.2
40°	1150.0	1123.1	1069.4	998.5	935.1	898.4	896.0	900.9	903.3
42.5°	1032.7	1010.8	962.0	900.9	847.2	817.9	820.3	830.1	837.4
45°	927.8	908.2	864.2	810.5	764.2	742.2	749.5	761.7	769.0
47.5°	832.6	815.4	773.9	725.1	686.0	671.4	681.1	695.9	705.6
50°	744.7	730.0	690.9	639.6	608.0	598.1	610.4	625.0	629.9
52.5°	666.5	651.9	610.4	566.5	542.0	537.1	549.3	561.6	568.9
55°	585.9	573.8	539.6	500.5	481.0	478.6	490.7	500.5	505.3
57.5°	520.1	507.8	476.1	441.9	424.8	422.3	434.6	441.9	444.3
60°	456.5	444.3	415.0	383.4	371.1	371.1	378.4	383.4	385.8
62.5°	398.0	385.8	358.9	332.0	322.2	322.2	322.2	324.7	332.0
65°	341.8	332.0	307.6	283.2	275.9	271.0	271.0	271.0	275.9
67.5°	290.5	280.7	261.3	239.2	231.9	224.6	222.2	227.0	227.0
70°	241.7	234.4	214.9	197.7	190.4	183.1	180.7	190.4	190.4
72.5°	197.7	190.4	178.2	161.2	153.8	151.3	156.2	161.2	163.6
75°	156.2	148.9	139.1	129.4	122.1	124.5	131.8	134.3	136.7
77.5°	117.2	114.8	104.9	97.6	97.6	100.1	104.9	109.8	112.4
80°	83.0	80.6	75.7	70.8	73.3	78.2	80.6	85.5	83.0
82.5°	51.3	51.3	48.8	48.8	51.3	56.1	58.6	61.0	63.4
85°	26.9	26.9	26.9	29.3	31.8	34.2	36.6	39.1	39.1
87.5°	7.3	9.7	9.7	12.2	14.6	14.6	17.0	17.0	17.0
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)