

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: P592907

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592907  
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-HM44560950-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4137.9 lumens  
Efficiency: N/A  
Efficacy: 86.2 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

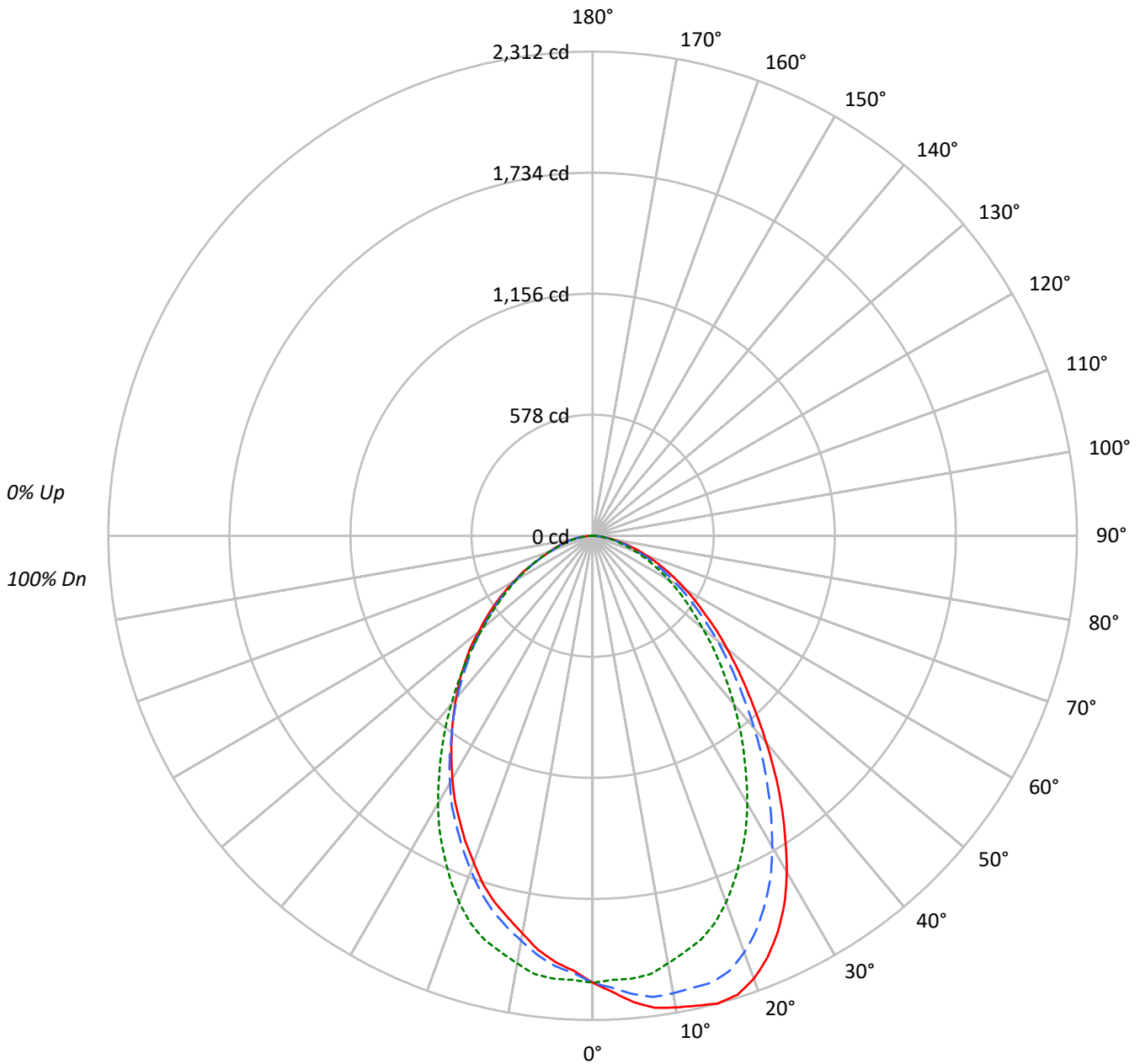
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	263170	263170	263170
5°	276731	262826	252995
10°	286456	259690	241504
15°	295184	254972	231182
20°	295523	244475	217868
25°	284415	228507	204281
30°	264089	210265	190767
35°	236737	189306	176522
40°	207727	168906	163190
45°	181554	149545	150504
50°	160287	130870	135591
55°	141350	116039	121931
60°	126355	102698	106743
65°	111929	90331	90331
70°	97769	77068	77068
75°	83495	65243	73106
80°	66131	58317	66131
85°	42598	50382	61987



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.2	4.9
10°-20°	569.3	13.8
20°-30°	797.5	19.3
30°-40°	821.7	19.9
40°-50°	699.6	16.9
50°-60°	518.3	12.5
60°-70°	325.3	7.9
70°-80°	161.6	3.9
80°-90°	42.4	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°	1569.0	37.9
0°-40°	2390.7	57.8
0°-60°	3608.5	87.2
0°-90°	4137.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4137.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2134	2134	2134	2134	2134	
5°	2235	2197	2123	2062	2043	215
15°	2312	2208	1997	1852	1810	650
25°	2090	1945	1679	1534	1501	956
35°	1572	1454	1257	1175	1172	980
45°	1041	970	857	841	863	808
55°	657	605	540	550	567	594
65°	384	345	310	304	310	383
75°	175	156	137	148	153	187
85°	30	30	36	41	44	39
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°	2133.6	2133.6	2133.6	2133.6	2133.6	2133.6	2133.6	2133.6	2133.6
2.5°	2180.2	2171.9	2161.0	2141.8	2122.7	2106.3	2089.8	2081.6	2078.8
5°	2235.0	2218.5	2196.6	2161.0	2122.7	2089.8	2062.5	2048.7	2043.3
7.5°	2273.3	2256.8	2221.3	2166.5	2111.7	2062.5	2018.6	1999.5	1993.9
10°	2287.1	2267.8	2218.5	2144.6	2073.4	2013.1	1963.8	1939.1	1928.2
12.5°	2298.0	2273.3	2210.3	2122.7	2035.0	1961.1	1909.0	1876.1	1868.0
15°	2311.6	2284.3	2207.6	2100.8	1996.7	1909.0	1851.6	1821.3	1810.4
17.5°	2298.0	2267.8	2177.5	2056.9	1939.1	1843.3	1780.3	1752.9	1742.0
20°	2251.4	2218.5	2117.2	1988.5	1862.5	1763.9	1700.9	1673.5	1659.8
22.5°	2180.2	2144.6	2040.5	1903.6	1774.9	1679.0	1618.8	1591.3	1583.1
25°	2089.8	2054.3	1944.7	1805.0	1679.0	1585.9	1533.9	1509.2	1501.0
27.5°	1983.0	1947.4	1840.6	1703.7	1583.1	1495.4	1454.4	1429.7	1424.3
30°	1854.2	1818.7	1714.6	1588.5	1476.3	1394.2	1361.3	1342.1	1339.4
32.5°	1711.9	1681.8	1585.9	1470.8	1364.0	1295.5	1270.8	1257.2	1254.5
35°	1572.2	1539.3	1454.4	1350.3	1257.2	1196.9	1175.0	1172.3	1172.3
37.5°	1429.7	1396.8	1328.4	1232.5	1153.1	1098.4	1090.1	1092.8	1092.8
40°	1290.1	1259.9	1199.7	1120.3	1049.0	1007.9	1005.2	1010.7	1013.5
42.5°	1158.6	1133.9	1079.1	1010.7	950.4	917.6	920.2	931.2	939.5
45°	1040.8	1018.9	969.6	909.3	857.3	832.7	840.9	854.6	862.8
47.5°	934.0	914.8	868.2	813.4	769.7	753.2	764.2	780.5	791.5
50°	835.3	819.0	775.1	717.6	682.0	671.1	684.8	701.2	706.6
52.5°	747.8	731.3	684.8	635.4	608.1	602.5	616.3	630.0	638.2
55°	657.3	643.6	605.3	561.5	539.6	536.8	550.5	561.5	567.0
57.5°	583.4	569.7	534.1	495.7	476.6	473.8	487.5	495.7	498.5
60°	512.2	498.5	465.6	430.1	416.3	416.3	424.5	430.1	432.7
62.5°	446.5	432.7	402.6	372.5	361.5	361.5	361.5	364.3	372.5
65°	383.5	372.5	345.1	317.7	309.5	304.0	304.0	304.0	309.5
67.5°	325.9	314.9	293.0	268.4	260.1	252.0	249.3	254.7	254.7
70°	271.1	262.9	241.0	221.8	213.7	205.5	202.7	213.7	213.7
72.5°	221.8	213.7	199.9	180.8	172.6	169.8	175.2	180.8	183.5
75°	175.2	167.0	156.1	145.1	136.9	139.7	147.9	150.7	153.4
77.5°	131.5	128.7	117.8	109.6	109.6	112.2	117.8	123.2	126.0
80°	93.1	90.3	84.9	79.5	82.1	87.7	90.3	95.9	93.1
82.5°	57.6	57.6	54.8	54.8	57.6	63.0	65.8	68.5	71.2
85°	30.1	30.1	30.1	32.9	35.6	38.3	41.1	43.8	43.8
87.5°	8.2	11.0	11.0	13.7	16.4	16.4	19.2	19.2	19.2
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)