

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: P581406

Luminaire Tested: **HC460D010-HM44560940-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581406  
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: HC460D010-HM44560940-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

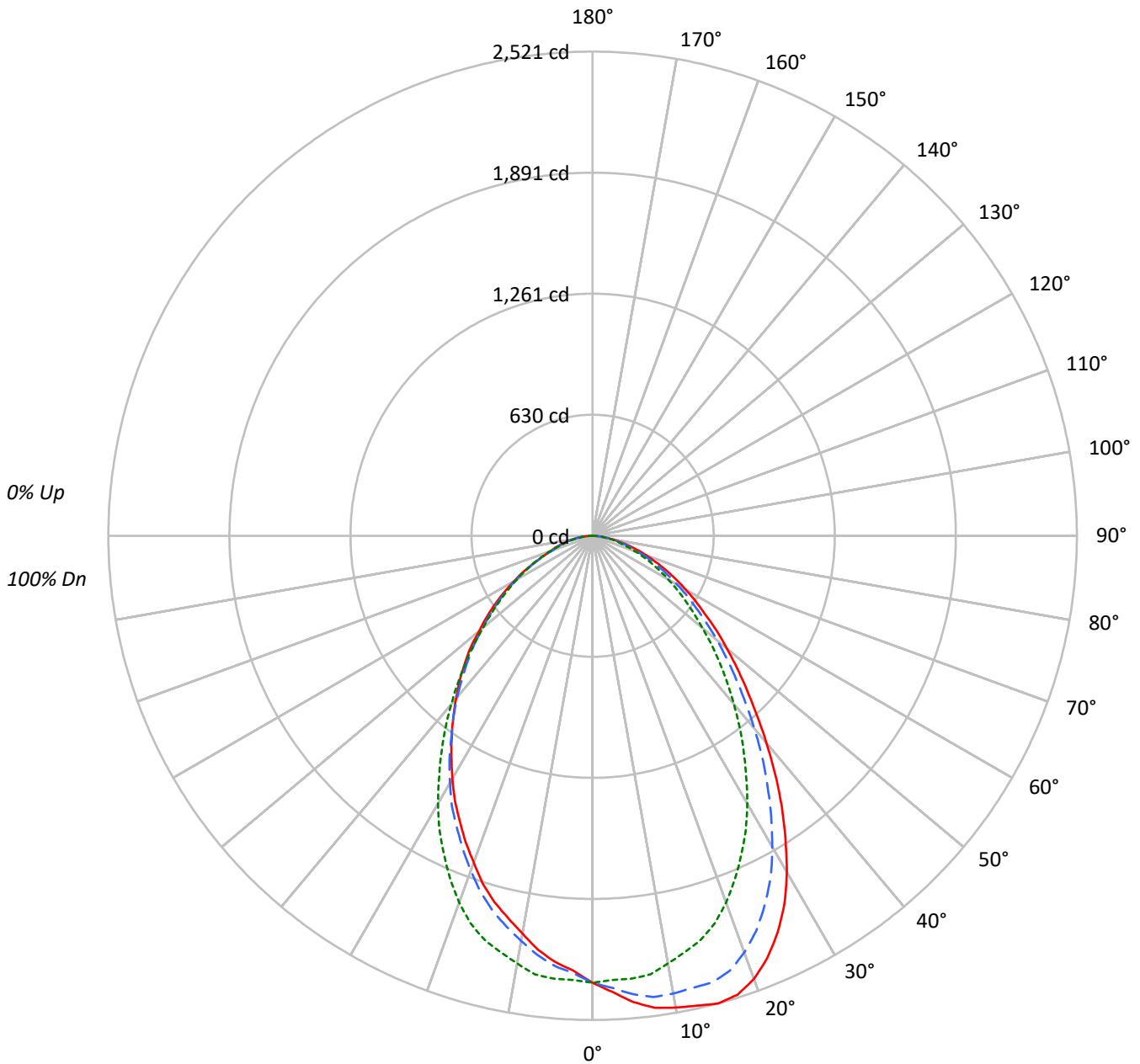
Lumens per Lamp: N/A  
Luminaire Lumens: 4512.7 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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					20					
RC	80					70					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°	287025	287025	287025
5°	301791	286636	275913
10°	312395	283212	263385
15°	321936	278073	252137
20°	322287	266619	237597
25°	310178	249207	222791
30°	288031	229308	208029
35°	258180	206456	192513
40°	226550	184203	177955
45°	198004	163099	164128
50°	174833	142729	147872
55°	154145	126555	132985
60°	137802	111998	116438
65°	122027	98503	98503
70°	106677	84029	84029
75°	91120	71152	79730
80°	72097	63645	72097
85°	46420	54911	67648



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.5	4.9
10°-20°	620.9	13.8
20°-30°	869.8	19.3
30°-40°	896.1	19.9
40°-50°	762.9	16.9
50°-60°	565.3	12.5
60°-70°	354.7	7.9
70°-80°	176.3	3.9
80°-90°	46.3	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°	1711.1	37.9
0°-40°	2607.2	57.8
0°-60°	3935.4	87.2
0°-90°	4512.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4512.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2327	2327	2327	2327	2327	
5°	2437	2396	2315	2249	2228	234
15°	2521	2408	2178	2019	1974	709
25°	2279	2121	1831	1673	1637	1042
35°	1715	1586	1371	1281	1278	1069
45°	1135	1057	935	917	941	881
55°	717	660	588	600	618	648
65°	418	376	338	332	338	417
75°	191	170	149	161	167	204
85°	33	33	39	45	48	42
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°	2327.0	2327.0	2327.0	2327.0	2327.0	2327.0	2327.0	2327.0	2327.0
2.5°	2377.7	2368.7	2356.7	2335.9	2315.0	2297.1	2279.1	2270.2	2267.2
5°	2437.4	2419.6	2395.6	2356.7	2315.0	2279.1	2249.2	2234.3	2228.4
7.5°	2479.2	2461.3	2422.5	2362.7	2303.0	2249.2	2201.4	2180.5	2174.6
10°	2494.2	2473.3	2419.6	2338.9	2261.2	2195.4	2141.7	2114.8	2102.9
12.5°	2506.1	2479.2	2410.5	2315.0	2219.3	2138.7	2081.9	2046.1	2037.2
15°	2521.1	2491.2	2407.6	2291.1	2177.6	2081.9	2019.2	1986.4	1974.5
17.5°	2506.1	2473.3	2374.7	2243.3	2114.8	2010.3	1941.6	1911.7	1899.8
20°	2455.3	2419.6	2309.0	2168.6	2031.2	1923.7	1855.0	1825.1	1810.1
22.5°	2377.7	2338.9	2225.3	2076.0	1935.6	1831.1	1765.3	1735.4	1726.5
25°	2279.1	2240.3	2120.8	1968.5	1831.1	1729.4	1672.7	1645.9	1637.0
27.5°	2162.6	2123.8	2007.3	1857.9	1726.5	1631.0	1586.1	1559.2	1553.3
30°	2022.3	1983.4	1869.9	1732.5	1610.0	1520.4	1484.6	1463.7	1460.6
32.5°	1867.0	1834.0	1729.4	1604.0	1487.5	1412.8	1386.0	1371.1	1368.0
35°	1714.6	1678.7	1586.1	1472.6	1371.1	1305.3	1281.4	1278.5	1278.5
37.5°	1559.2	1523.4	1448.7	1344.1	1257.5	1197.8	1188.8	1191.8	1191.8
40°	1407.0	1374.0	1308.4	1221.7	1144.0	1099.2	1096.2	1102.2	1105.2
42.5°	1263.5	1236.6	1176.8	1102.2	1036.5	1000.6	1003.7	1015.7	1024.6
45°	1135.1	1111.2	1057.4	991.7	935.0	908.0	917.1	932.0	940.9
47.5°	1018.6	997.7	946.8	887.2	839.3	821.4	833.4	851.3	863.3
50°	911.1	893.2	845.3	782.6	743.8	731.8	746.7	764.7	770.6
52.5°	815.4	797.5	746.7	693.0	663.2	657.2	672.1	687.1	696.0
55°	716.8	702.0	660.1	612.4	588.5	585.4	600.4	612.4	618.4
57.5°	636.2	621.3	582.5	540.7	519.8	516.7	531.7	540.7	543.7
60°	558.6	543.7	507.8	469.0	454.0	454.0	463.0	469.0	472.0
62.5°	486.8	472.0	439.1	406.2	394.2	394.2	394.2	397.3	406.2
65°	418.1	406.2	376.4	346.5	337.5	331.5	331.5	331.5	337.5
67.5°	355.4	343.5	319.6	292.7	283.8	274.8	271.8	277.8	277.8
70°	295.8	286.7	262.8	242.0	233.0	224.0	221.1	233.0	233.0
72.5°	242.0	233.0	218.0	197.2	188.2	185.2	191.2	197.2	200.1
75°	191.2	182.2	170.2	158.3	149.3	152.4	161.3	164.2	167.3
77.5°	143.4	140.4	128.5	119.5	119.5	122.5	128.5	134.5	137.4
80°	101.5	98.6	92.6	86.6	89.6	95.5	98.6	104.6	101.5
82.5°	62.7	62.7	59.8	59.8	62.7	68.7	71.7	74.7	77.7
85°	32.8	32.8	32.8	35.9	38.8	41.8	44.8	47.8	47.8
87.5°	8.9	12.0	12.0	14.9	17.9	17.9	20.9	20.9	20.9
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)