

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: P581276

Luminaire Tested: **HC460D010-HM44560827-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581276  
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: HC460D010-HM44560827-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4736.6 lumens  
Efficiency: N/A  
Efficacy: 86.1 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

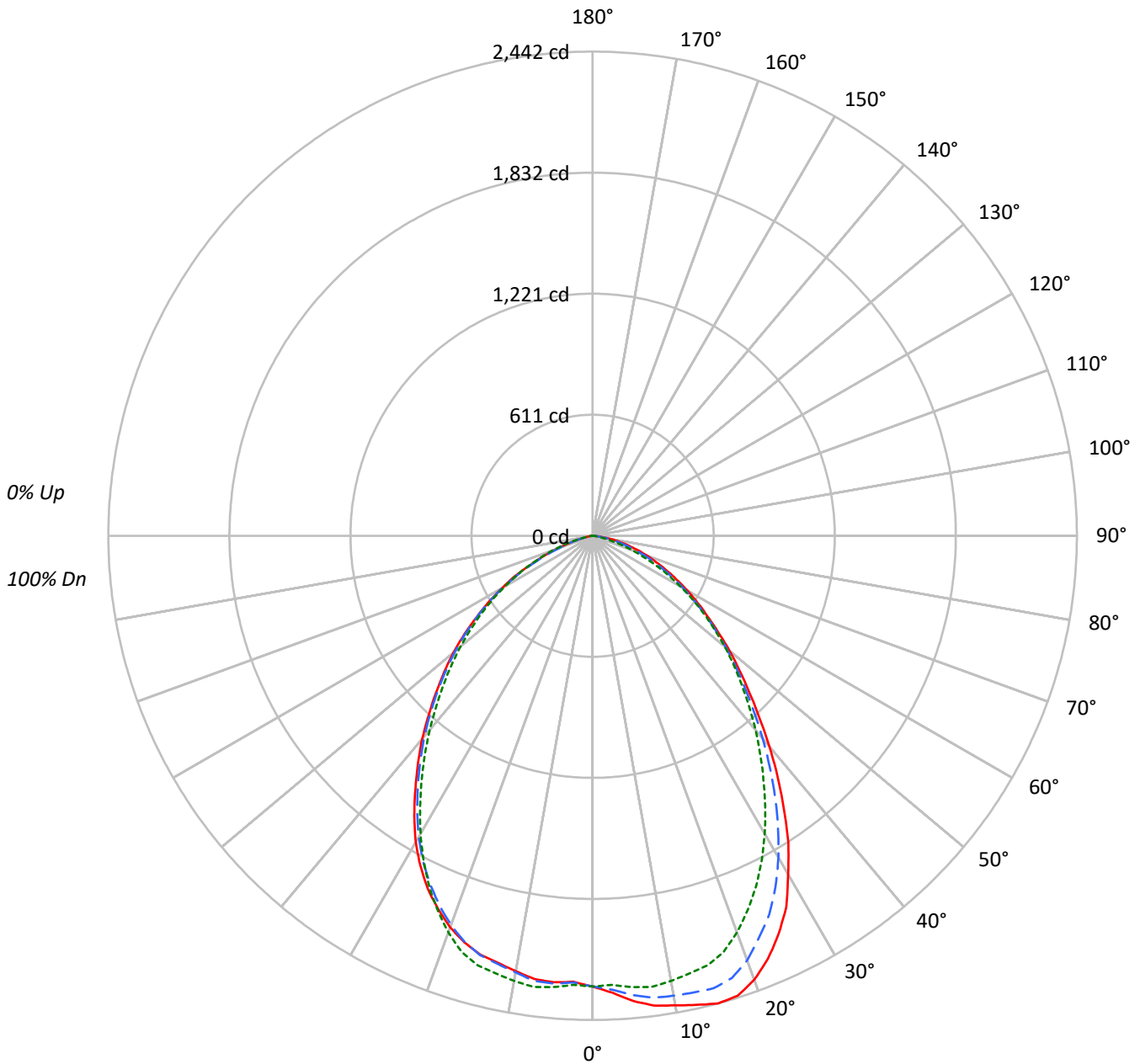
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88	88	88
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76	76	76	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58	58	58	58
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52	52	52	52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46	46	46	46
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41	41	41	41
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37	37	37	37
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34	34	34	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31	31	31	31

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

	0°	90°	180°
0°	280365	280365	280365
5°	291700	282959	279913
10°	301235	285466	279317
15°	311836	286347	279286
20°	312875	279404	275781
25°	301836	265457	267553
30°	280867	247183	254176
35°	253000	226167	234494
40°	223056	205747	215150
45°	195038	185392	194497
50°	172703	166792	175658
55°	151930	147307	153264
60°	135631	125788	129587
65°	119254	102180	100400
70°	104152	75337	68666
75°	86402	45370	36601
80°	65491	17474	10868
85°	30427	4246	4246



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.2	4.6
10°-20°	639.8	13.5
20°-30°	926.6	19.6
30°-40°	977.6	20.6
40°-50°	846.0	17.9
50°-60°	626.7	13.2
60°-70°	361.3	7.6
70°-80°	126.1	2.7
80°-90°	13.2	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°	1785.6	37.7
0°-40°	2763.2	58.3
0°-60°	4236.0	89.4
0°-90°	4736.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4736.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2273	2273	2273	2273	2273	
5°	2356	2325	2285	2267	2261	226
15°	2442	2362	2242	2190	2187	687
25°	2218	2107	1950	1938	1966	1015
35°	1680	1604	1502	1536	1557	1049
45°	1118	1087	1063	1103	1115	868
55°	706	691	685	710	713	637
65°	409	384	350	332	344	408
75°	181	154	95	77	77	195
85°	22	12	3	3	3	33
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°	2273.0	2273.0	2273.0	2273.0	2273.0	2273.0	2273.0	2273.0	2273.0
2.5°	2306.9	2300.7	2291.4	2279.2	2266.9	2257.7	2254.6	2251.5	2251.5
5°	2355.9	2343.6	2325.3	2300.7	2285.3	2276.1	2266.9	2260.7	2260.7
7.5°	2389.8	2377.5	2349.8	2316.0	2294.6	2276.1	2263.8	2254.6	2254.6
10°	2405.1	2389.8	2355.9	2313.0	2279.2	2254.6	2236.1	2230.1	2230.1
12.5°	2423.5	2405.1	2359.1	2303.7	2260.7	2230.1	2211.6	2205.5	2205.5
15°	2442.0	2420.5	2362.1	2297.6	2242.4	2205.5	2190.1	2187.1	2187.1
17.5°	2432.8	2405.1	2337.6	2260.7	2199.4	2162.5	2147.1	2147.1	2150.2
20°	2383.6	2355.9	2279.2	2193.2	2128.6	2101.0	2088.7	2094.9	2101.0
22.5°	2309.9	2276.1	2193.2	2110.3	2042.7	2018.1	2018.1	2027.4	2036.5
25°	2217.8	2187.1	2107.2	2015.1	1950.5	1932.0	1938.2	1953.6	1965.9
27.5°	2113.3	2079.6	1996.6	1910.6	1846.1	1836.8	1852.2	1873.7	1879.8
30°	1972.0	1944.3	1873.7	1790.8	1735.5	1732.4	1753.9	1769.3	1784.6
32.5°	1836.8	1806.2	1738.6	1658.7	1618.8	1621.8	1646.4	1664.8	1674.1
35°	1680.2	1652.5	1603.5	1538.9	1502.0	1508.2	1535.9	1554.3	1557.3
37.5°	1532.7	1514.3	1465.2	1416.1	1388.3	1400.6	1425.2	1446.8	1446.8
40°	1385.3	1370.0	1333.1	1293.1	1277.8	1293.1	1317.7	1336.2	1336.2
42.5°	1244.1	1234.8	1204.1	1176.5	1167.3	1188.7	1210.2	1225.6	1222.5
45°	1118.1	1108.8	1087.4	1065.8	1062.8	1084.3	1102.7	1112.0	1115.0
47.5°	1004.5	998.3	979.9	964.6	964.6	986.0	1001.3	1010.6	1013.6
50°	900.0	893.8	878.5	866.2	869.2	890.8	903.1	912.3	915.4
52.5°	795.6	792.5	780.2	764.9	774.0	789.4	804.8	810.9	814.0
55°	706.5	706.5	691.1	678.8	685.0	700.4	709.5	712.7	712.7
57.5°	626.6	623.6	605.2	592.9	595.9	611.3	617.4	620.5	620.5
60°	549.8	546.7	528.4	509.9	509.9	519.1	522.2	525.3	525.3
62.5°	476.1	473.1	451.5	436.2	430.0	426.9	426.9	433.2	445.4
65°	408.6	405.5	384.0	359.4	350.1	341.0	331.7	337.8	344.0
67.5°	347.1	341.0	319.4	297.9	276.5	261.1	245.7	254.9	267.2
70°	288.8	282.6	258.0	233.5	208.9	184.3	172.0	184.3	190.4
72.5°	233.5	227.3	202.7	178.1	147.4	122.8	119.8	122.8	125.9
75°	181.3	178.1	153.6	125.9	95.2	76.8	76.8	76.8	76.8
77.5°	135.1	129.0	104.5	79.9	55.3	43.0	39.9	39.9	39.9
80°	92.2	86.0	64.5	46.0	24.6	18.4	18.4	15.3	15.3
82.5°	52.2	49.2	33.8	18.4	9.2	6.1	6.1	6.1	6.1
85°	21.5	18.4	12.3	6.1	3.0	3.0	3.0	3.0	3.0
87.5°	3.0	3.0	3.0	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)