

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: P581277

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581277  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC460D010-HM44560827-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4712.1 lumens  
Efficiency: N/A  
Efficacy: 85.7 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

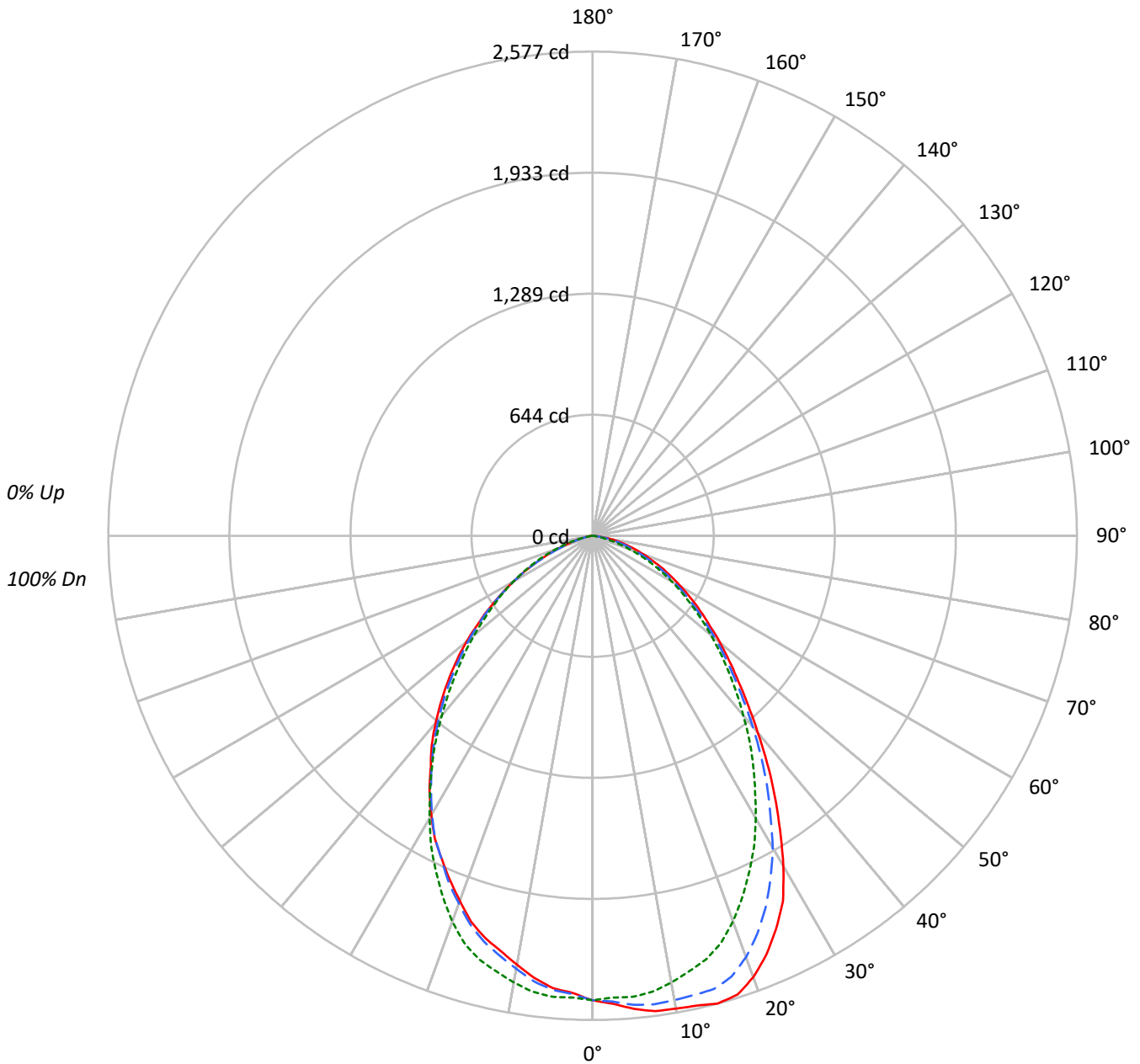
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	304935	304935	304935
5°	312947	304961	299265
10°	320022	302337	290414
15°	329036	298057	282759
20°	328141	286623	271292
25°	314316	268329	258312
30°	289113	247140	244505
35°	254340	224285	226122
40°	220061	200771	209176
45°	191253	178379	189107
50°	169728	157332	167944
55°	150597	138017	143974
60°	134101	119719	119719
65°	119196	99495	93220
70°	102998	75301	66466
75°	86355	49802	40985
80°	65491	23938	21807
85°	34815	8633	8633



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.1	5.0
10°-20°	663.8	14.1
20°-30°	936.1	19.9
30°-40°	967.0	20.5
40°-50°	819.7	17.4
50°-60°	596.4	12.7
60°-70°	348.5	7.4
70°-80°	129.5	2.7
80°-90°	16.9	0.4
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°	1834.0	38.9
0°-40°	2801.0	59.4
0°-60°	4217.1	89.5
0°-90°	4712.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4712.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2472	2472	2472	2472	2472	
5°	2528	2506	2463	2426	2417	242
15°	2577	2497	2334	2236	2214	724
25°	2310	2180	1972	1901	1898	1056
35°	1689	1615	1490	1493	1502	1055
45°	1096	1066	1023	1060	1084	853
55°	700	666	642	663	670	630
65°	408	375	341	319	319	405
75°	181	150	104	83	86	195
85°	25	15	6	6	6	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°	2472.2	2472.2	2472.2	2472.2	2472.2	2472.2	2472.2	2472.2	2472.2
2.5°	2493.7	2487.6	2481.5	2472.2	2459.9	2450.7	2441.6	2435.4	2435.4
5°	2527.5	2518.3	2506.0	2484.5	2463.0	2444.6	2426.2	2417.0	2417.0
7.5°	2552.1	2539.8	2515.2	2484.5	2447.6	2420.0	2392.4	2380.1	2374.0
10°	2555.1	2542.9	2509.1	2463.0	2413.9	2370.8	2340.1	2321.8	2318.7
12.5°	2561.2	2545.9	2502.9	2438.4	2374.0	2321.8	2287.9	2269.5	2263.4
15°	2576.7	2555.1	2496.8	2413.9	2334.1	2272.6	2235.8	2220.4	2214.3
17.5°	2561.2	2530.6	2459.9	2361.7	2272.6	2205.0	2168.2	2152.8	2152.8
20°	2499.9	2469.2	2386.3	2278.8	2183.6	2119.1	2082.2	2073.0	2066.8
22.5°	2413.9	2380.1	2291.1	2177.4	2082.2	2023.9	1999.3	1987.0	1983.9
25°	2309.5	2275.6	2180.4	2063.8	1971.6	1922.5	1901.0	1901.0	1898.0
27.5°	2192.7	2149.7	2051.5	1950.1	1861.1	1824.2	1815.1	1815.1	1818.1
30°	2029.9	1999.3	1916.4	1818.1	1735.2	1710.6	1710.6	1716.7	1716.7
32.5°	1854.9	1833.5	1759.7	1673.7	1609.2	1593.9	1600.1	1612.4	1615.4
35°	1689.1	1664.5	1615.4	1538.6	1489.5	1483.3	1492.6	1501.7	1501.7
37.5°	1526.3	1501.7	1468.0	1406.5	1369.7	1372.8	1385.1	1397.4	1406.5
40°	1366.7	1348.2	1323.6	1274.5	1246.9	1259.2	1274.5	1286.8	1299.1
42.5°	1225.3	1207.0	1188.5	1151.7	1133.2	1148.6	1167.0	1179.3	1191.6
45°	1096.4	1084.1	1065.6	1034.9	1022.6	1038.0	1059.5	1071.8	1084.1
47.5°	985.9	979.7	955.1	927.4	921.4	936.7	955.1	970.4	979.7
50°	884.5	875.2	853.8	826.1	819.9	844.5	856.8	866.1	875.2
52.5°	786.2	777.0	752.4	727.9	727.9	746.3	755.5	758.6	767.7
55°	700.3	691.0	666.4	648.0	641.8	657.2	663.4	663.4	669.5
57.5°	620.4	611.2	586.6	565.1	562.0	571.2	571.2	571.2	574.3
60°	543.6	534.3	509.9	491.4	485.3	488.3	485.3	482.1	485.3
62.5°	473.0	463.7	439.1	417.7	411.5	411.5	402.4	399.2	402.4
65°	408.4	393.1	374.7	353.2	340.9	331.6	319.4	319.4	319.4
67.5°	343.9	331.6	310.2	288.7	273.3	258.0	239.6	245.7	248.7
70°	285.6	276.4	251.9	230.3	208.8	190.4	175.1	181.2	184.3
72.5°	233.4	221.1	199.7	175.1	156.7	132.1	122.8	128.9	128.9
75°	181.2	168.9	150.5	125.9	104.5	82.9	82.9	86.0	86.0
77.5°	135.1	122.8	104.5	82.9	64.5	49.2	52.2	52.2	52.2
80°	92.2	82.9	67.6	49.2	33.7	27.6	27.6	27.6	30.7
82.5°	52.2	46.0	36.9	24.6	15.3	15.3	15.3	15.3	15.3
85°	24.6	18.4	15.3	9.2	6.1	6.1	6.1	6.1	6.1
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)