

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: P580883

Luminaire Tested: **HC450D010-HM44560835-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580883  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560835-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4773.2 lumens  
Efficiency: N/A  
Efficacy: 99.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

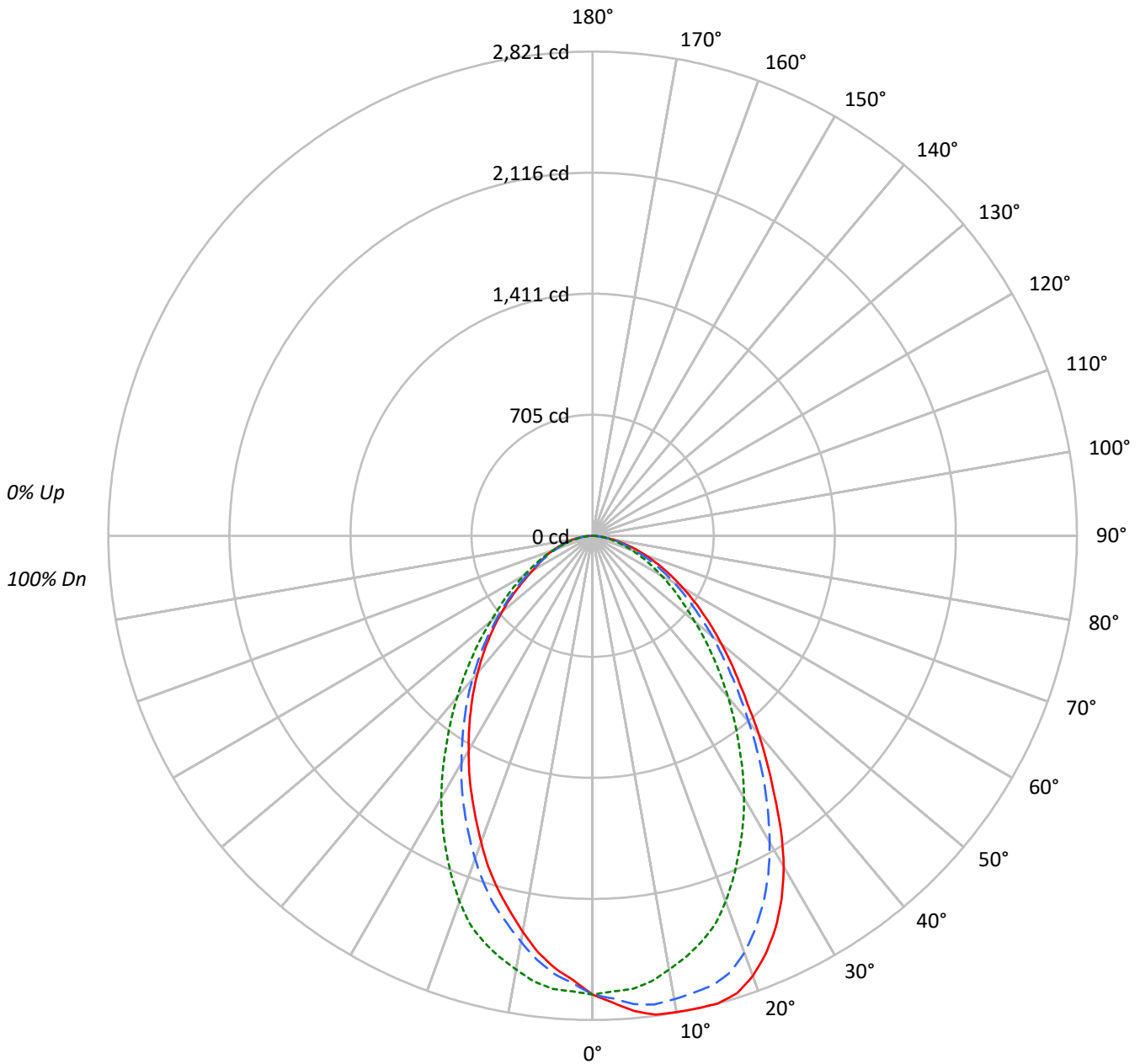
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87			87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76			76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66			66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58			58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47			47
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	329691	329691	329691
5°	344186	328214	313034
10°	352887	321375	293420
15°	360182	312806	272250
20°	358266	297596	249305
25°	343236	275174	226819
30°	317086	251256	205565
35°	277935	223502	186098
40°	242024	197454	167586
45°	210633	172222	149754
50°	187651	148447	132156
55°	167715	130512	114297
60°	149717	114045	98528
65°	133088	100021	93600
70°	116811	86193	87311
75°	98936	73440	80922
80°	75933	62508	73660
85°	44438	48826	62412



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	250.5	5.2
10°-20°	691.1	14.5
20°-30°	944.2	19.8
30°-40°	948.1	19.9
40°-50°	784.3	16.4
50°-60°	568.4	11.9
60°-70°	360.0	7.5
70°-80°	182.0	3.8
80°-90°	44.5	0.9
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°	1885.8	39.5
0°-40°	2833.9	59.4
0°-60°	4186.6	87.7
0°-90°	4773.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4773.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2673	2673	2673	2673	2673	
5°	2780	2739	2651	2563	2528	266
15°	2821	2711	2450	2223	2132	793
25°	2522	2355	2022	1767	1667	1153
35°	1846	1736	1484	1302	1236	1157
45°	1208	1138	987	890	858	939
55°	780	711	607	553	532	701
65°	456	406	343	308	321	454
75°	208	179	154	160	170	222
85°	31	31	34	41	44	44
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°	2672.9	2672.9	2672.9	2672.9	2672.9	2672.9	2672.9	2672.9	2672.9
2.5°	2723.2	2713.7	2698.0	2679.2	2657.1	2632.0	2610.0	2597.4	2591.2
5°	2779.8	2767.2	2738.9	2698.0	2650.8	2603.7	2562.8	2537.7	2528.2
7.5°	2814.3	2795.5	2754.7	2691.8	2619.4	2550.2	2490.5	2455.9	2446.5
10°	2817.5	2795.5	2742.0	2657.1	2565.9	2474.8	2402.4	2352.2	2342.7
12.5°	2820.6	2792.4	2726.3	2625.7	2512.4	2399.3	2311.2	2251.5	2235.8
15°	2820.6	2792.4	2710.6	2591.2	2449.6	2320.7	2223.2	2154.0	2132.0
17.5°	2795.5	2764.1	2666.5	2528.2	2374.2	2229.5	2116.3	2044.0	2021.9
20°	2729.4	2694.9	2584.8	2433.9	2267.2	2116.3	2003.1	1927.6	1899.3
22.5°	2635.1	2594.3	2477.9	2314.4	2147.7	1993.6	1883.6	1805.0	1779.8
25°	2522.0	2481.0	2355.3	2194.8	2021.9	1877.3	1767.2	1694.9	1666.6
27.5°	2383.6	2339.5	2216.9	2056.6	1896.2	1751.5	1650.9	1584.9	1556.6
30°	2226.3	2179.1	2062.8	1908.7	1764.1	1625.7	1528.2	1474.7	1443.3
32.5°	2044.0	2003.1	1899.3	1760.9	1625.7	1493.7	1411.9	1364.7	1339.6
35°	1845.8	1823.9	1735.8	1616.3	1484.3	1374.1	1301.8	1257.8	1235.9
37.5°	1669.8	1647.8	1572.3	1471.6	1355.3	1254.7	1194.9	1157.1	1138.3
40°	1503.1	1484.3	1411.9	1327.0	1226.3	1138.3	1088.0	1059.7	1040.8
42.5°	1339.6	1330.2	1270.4	1191.8	1103.8	1028.3	987.3	965.4	949.7
45°	1207.5	1194.9	1138.3	1062.8	987.3	924.5	889.9	874.2	858.5
47.5°	1091.2	1075.5	1015.7	949.7	880.5	823.8	792.4	776.7	770.4
50°	977.9	962.2	908.7	842.8	773.6	732.7	707.5	691.8	688.7
52.5°	877.3	861.6	801.9	738.9	685.6	650.9	628.9	613.2	606.9
55°	779.9	761.0	710.7	650.9	606.9	575.4	553.4	537.7	531.5
57.5°	691.8	672.9	628.9	572.3	531.5	503.1	484.3	468.6	462.3
60°	606.9	591.1	550.3	496.8	462.3	437.0	418.2	405.6	399.4
62.5°	528.3	515.8	474.8	427.6	399.4	377.4	361.7	349.0	355.3
65°	456.0	443.4	405.6	364.8	342.7	320.7	308.2	308.2	320.7
67.5°	386.8	374.2	342.7	308.2	289.3	273.5	264.1	273.5	283.1
70°	323.9	311.3	283.1	254.7	239.0	226.4	226.4	235.8	242.1
72.5°	264.1	251.5	229.6	207.6	194.9	185.5	194.9	201.3	207.6
75°	207.6	198.2	179.2	163.5	154.1	150.9	160.4	166.7	169.8
77.5°	154.1	147.8	135.2	122.7	116.3	119.4	129.0	132.1	135.2
80°	106.9	103.7	94.3	88.0	88.0	91.2	97.5	100.6	103.7
82.5°	66.1	66.1	59.8	56.6	59.8	66.1	69.2	72.3	72.3
85°	31.4	34.5	31.4	31.4	34.5	40.8	40.8	44.1	44.1
87.5°	9.4	9.4	12.6	12.6	15.7	15.7	15.7	15.7	18.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)