

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: P580847

Luminaire Tested: **HC450D010-HM44560827-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580847  
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-HM44560827-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

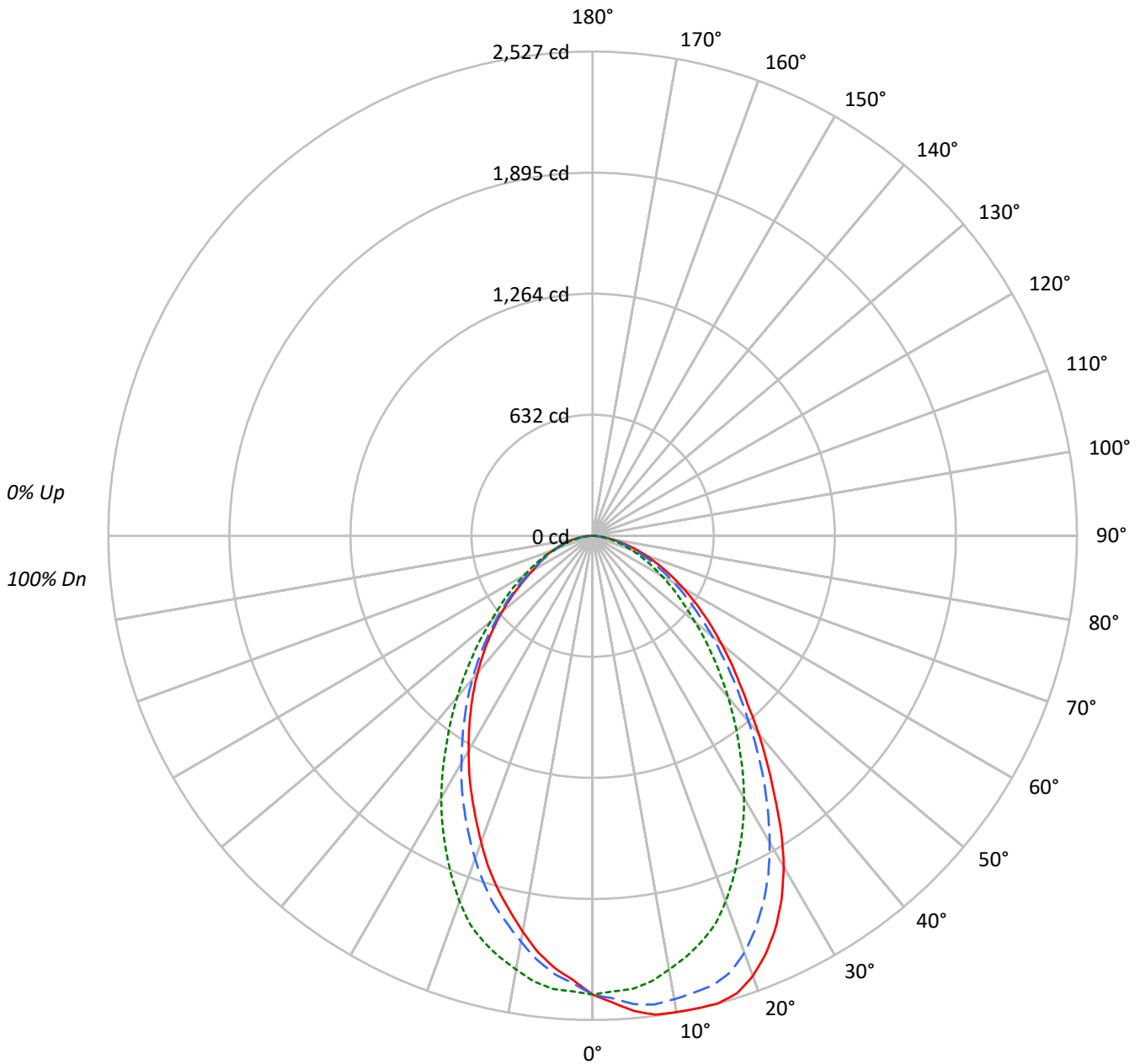
Lumens per Lamp: N/A  
Luminaire Lumens: 4275.7 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	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	42	37	47	41	37	46	41	37	35																			
10	59	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°	295314	295314	295314
5°	308304	294003	280408
10°	316102	287884	262834
15°	322639	280205	243875
20°	320922	266579	223315
25°	307456	246499	203179
30°	284043	225064	184144
35°	248964	200192	166689
40°	216792	176892	150115
45°	188671	154290	134142
50°	168097	132981	118359
55°	150210	116899	102362
60°	134101	102130	88266
65°	119225	89630	83852
70°	104621	77213	78222
75°	88595	65767	72486
80°	68049	55973	66060
85°	39768	43872	55760



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.4	5.2
10°-20°	619.0	14.5
20°-30°	845.8	19.8
30°-40°	849.3	19.9
40°-50°	702.6	16.4
50°-60°	509.1	11.9
60°-70°	322.5	7.5
70°-80°	163.0	3.8
80°-90°	39.9	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°	1689.2	39.5
0°-40°	2538.5	59.4
0°-60°	3750.2	87.7
0°-90°	4275.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4275.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2394	2394	2394	2394	2394	
5°	2490	2453	2374	2296	2265	239
15°	2527	2428	2194	1992	1910	711
25°	2259	2110	1811	1583	1493	1032
35°	1653	1555	1330	1166	1107	1036
45°	1082	1020	884	797	769	841
55°	698	637	544	496	476	628
65°	408	363	307	276	287	407
75°	186	160	138	144	152	199
85°	28	28	31	37	39	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°	2394.2	2394.2	2394.2	2394.2	2394.2	2394.2	2394.2	2394.2	2394.2
2.5°	2439.3	2430.9	2416.8	2399.9	2380.2	2357.7	2337.9	2326.7	2321.0
5°	2490.0	2478.8	2453.4	2416.8	2374.5	2332.3	2295.7	2273.1	2264.7
7.5°	2521.0	2504.1	2467.5	2411.2	2346.4	2284.4	2230.9	2199.9	2191.4
10°	2523.8	2504.1	2456.2	2380.2	2298.5	2216.8	2152.0	2107.0	2098.5
12.5°	2526.6	2501.3	2442.2	2352.0	2250.6	2149.2	2070.3	2016.8	2002.7
15°	2526.6	2501.3	2428.1	2321.0	2194.3	2078.8	1991.5	1929.5	1909.8
17.5°	2504.1	2475.9	2388.6	2264.7	2126.7	1997.1	1895.7	1830.9	1811.2
20°	2444.9	2413.9	2315.4	2180.2	2030.9	1895.7	1794.3	1726.7	1701.3
22.5°	2360.5	2323.8	2219.6	2073.2	1923.9	1785.8	1687.3	1616.9	1594.3
25°	2259.1	2222.4	2109.7	1966.1	1811.2	1681.6	1583.0	1518.3	1492.9
27.5°	2135.1	2095.7	1985.8	1842.2	1698.5	1569.0	1478.8	1419.6	1394.3
30°	1994.3	1952.0	1847.8	1709.8	1580.2	1456.3	1368.9	1321.1	1292.9
32.5°	1830.9	1794.3	1701.3	1577.4	1456.3	1337.9	1264.7	1222.5	1200.0
35°	1653.4	1633.7	1554.9	1447.8	1329.5	1231.0	1166.1	1126.7	1107.0
37.5°	1495.7	1476.0	1408.4	1318.2	1214.0	1123.9	1070.4	1036.6	1019.7
40°	1346.4	1329.5	1264.7	1188.7	1098.6	1019.7	974.6	949.3	932.3
42.5°	1200.0	1191.5	1138.0	1067.6	988.7	921.1	884.5	864.8	850.6
45°	1081.6	1070.4	1019.7	952.0	884.5	828.1	797.2	783.1	769.0
47.5°	977.4	963.3	909.8	850.6	788.7	738.0	709.8	695.7	690.1
50°	876.0	861.9	814.1	754.9	693.0	656.3	633.8	619.7	616.8
52.5°	785.9	771.8	718.3	662.0	614.1	583.1	563.4	549.3	543.6
55°	698.5	681.7	636.6	583.1	543.6	515.4	495.7	481.7	476.0
57.5°	619.7	602.8	563.4	512.7	476.0	450.7	433.8	419.7	414.0
60°	543.6	529.6	492.9	445.0	414.0	391.5	374.6	363.3	357.8
62.5°	473.2	462.0	425.3	383.1	357.8	338.0	323.9	312.6	318.3
65°	408.5	397.2	363.3	326.8	307.1	287.3	276.1	276.1	287.3
67.5°	346.5	335.2	307.1	276.1	259.1	245.1	236.6	245.1	253.5
70°	290.1	278.9	253.5	228.2	214.1	202.8	202.8	211.2	216.9
72.5°	236.6	225.4	205.6	185.9	174.7	166.2	174.7	180.2	185.9
75°	185.9	177.5	160.5	146.5	138.0	135.2	143.7	149.3	152.1
77.5°	138.0	132.4	121.1	109.8	104.2	107.0	115.5	118.3	121.1
80°	95.8	93.0	84.5	78.8	78.8	81.7	87.3	90.1	93.0
82.5°	59.1	59.1	53.5	50.7	53.5	59.1	62.0	64.8	64.8
85°	28.1	31.0	28.1	28.1	31.0	36.6	36.6	39.4	39.4
87.5°	8.4	8.4	11.3	11.3	14.1	14.1	14.1	14.1	16.9
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)