

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: P592816

Luminaire Tested: **HC440D010-HM43040850-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592816  
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: HC440D010-HM43040850-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4329.6 lumens  
Efficiency: N/A  
Efficacy: 105.6 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

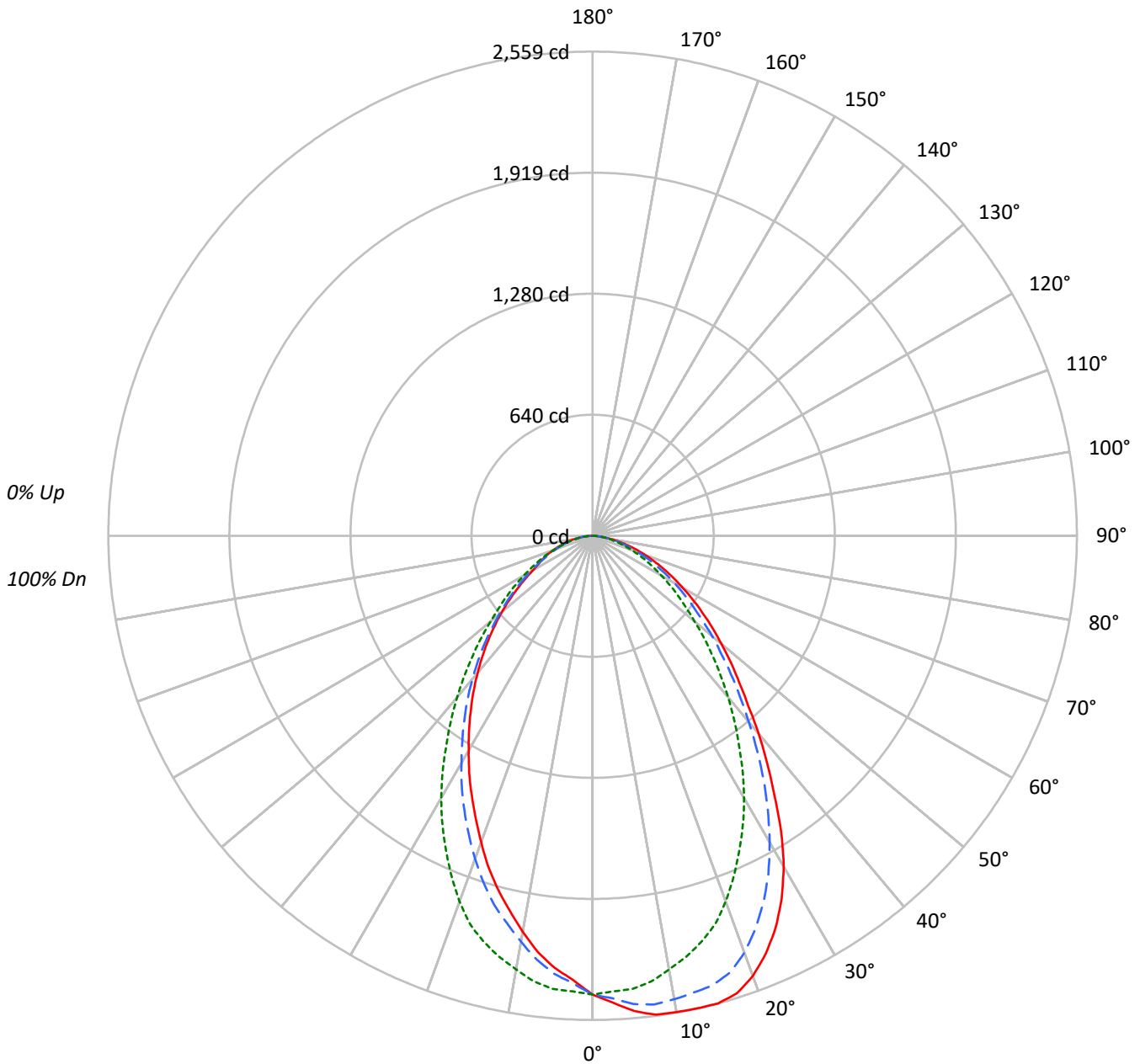
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	299051	299051	299051
5°	312204	297717	283937
10°	320097	291516	266153
15°	326725	283729	246940
20°	324978	269953	226151
25°	311335	249615	205751
30°	287632	227898	186466
35°	252111	202722	168797
40°	219546	179115	152015
45°	191061	156243	135817
50°	170208	134631	119856
55°	152124	118383	103652
60°	135804	103438	89352
65°	120684	90739	84902
70°	105956	78186	79196
75°	89691	66625	73392
80°	68901	56683	66912
85°	40334	44438	56468



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	227.3	5.2
10°-20°	626.9	14.5
20°-30°	856.5	19.8
30°-40°	860.0	19.9
40°-50°	711.4	16.4
50°-60°	515.6	11.9
60°-70°	326.6	7.5
70°-80°	165.1	3.8
80°-90°	40.4	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°	1710.6	39.5
0°-40°	2570.6	59.4
0°-60°	3797.6	87.7
0°-90°	4329.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4329.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2424	2424	2424	2424	2424	
5°	2522	2484	2404	2325	2293	242
15°	2559	2459	2222	2017	1934	720
25°	2288	2136	1834	1603	1512	1045
35°	1674	1574	1346	1181	1121	1049
45°	1095	1033	896	807	779	852
55°	707	645	550	502	482	636
65°	414	368	311	280	291	412
75°	188	162	140	146	154	201
85°	28	28	31	37	40	40
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°	2424.5	2424.5	2424.5	2424.5	2424.5	2424.5	2424.5	2424.5	2424.5
2.5°	2470.1	2461.6	2447.3	2430.2	2410.3	2387.4	2367.4	2356.0	2350.3
5°	2521.5	2510.0	2484.4	2447.3	2404.5	2361.7	2324.6	2301.9	2293.2
7.5°	2552.9	2535.7	2498.6	2441.7	2376.0	2313.3	2259.0	2227.7	2219.1
10°	2555.7	2535.7	2487.3	2410.3	2327.5	2244.8	2179.2	2133.6	2125.0
12.5°	2558.6	2532.9	2472.9	2381.7	2279.0	2176.3	2096.5	2042.2	2028.0
15°	2558.6	2532.9	2458.7	2350.3	2221.9	2105.0	2016.6	1953.9	1933.8
17.5°	2535.7	2507.2	2418.8	2293.2	2153.6	2022.3	1919.6	1854.0	1834.1
20°	2475.8	2444.5	2344.6	2207.7	2056.6	1919.6	1816.9	1748.5	1722.9
22.5°	2390.3	2353.2	2247.6	2099.3	1948.2	1808.4	1708.5	1637.2	1614.5
25°	2287.6	2250.5	2136.4	1990.9	1834.1	1702.8	1603.0	1537.5	1511.8
27.5°	2162.1	2122.2	2010.8	1865.5	1720.0	1588.8	1497.4	1437.6	1411.9
30°	2019.5	1976.7	1871.2	1731.4	1600.1	1474.7	1386.2	1337.8	1309.2
32.5°	1854.0	1816.9	1722.9	1597.3	1474.7	1354.8	1280.7	1237.9	1215.1
35°	1674.3	1654.4	1574.4	1466.2	1346.3	1246.4	1180.9	1141.0	1121.0
37.5°	1514.6	1494.6	1426.1	1334.9	1229.4	1138.0	1083.9	1049.7	1032.6
40°	1363.5	1346.3	1280.7	1203.7	1112.4	1032.6	986.9	961.3	944.1
42.5°	1215.1	1206.5	1152.4	1081.0	1001.2	932.7	895.7	875.6	861.4
45°	1095.3	1083.9	1032.6	964.1	895.7	838.6	807.2	793.0	778.6
47.5°	989.7	975.5	921.3	861.4	798.6	747.3	718.8	704.5	698.8
50°	887.0	872.8	824.3	764.4	701.6	664.6	641.8	627.5	624.6
52.5°	795.8	781.6	727.3	670.2	621.8	590.4	570.5	556.2	550.5
55°	707.4	690.3	644.6	590.4	550.5	521.9	502.0	487.7	482.0
57.5°	627.5	610.4	570.5	519.1	482.0	456.4	439.2	425.0	419.3
60°	550.5	536.3	499.2	450.6	419.3	396.5	379.3	367.9	362.2
62.5°	479.2	467.8	430.7	387.9	362.2	342.2	328.0	316.6	322.3
65°	413.5	402.2	367.9	330.9	310.9	290.9	279.6	279.6	290.9
67.5°	350.9	339.4	310.9	279.6	262.4	248.2	239.6	248.2	256.7
70°	293.8	282.4	256.7	231.0	216.8	205.4	205.4	213.9	219.6
72.5°	239.6	228.2	208.2	188.2	176.9	168.3	176.9	182.5	188.2
75°	188.2	179.7	162.5	148.3	139.8	136.9	145.5	151.2	154.0
77.5°	139.8	134.1	122.6	111.2	105.5	108.4	116.9	119.8	122.6
80°	97.0	94.2	85.5	79.8	79.8	82.7	88.4	91.2	94.2
82.5°	59.9	59.9	54.1	51.3	54.1	59.9	62.8	65.6	65.6
85°	28.5	31.4	28.5	28.5	31.4	37.1	37.1	39.9	39.9
87.5°	8.5	8.5	11.4	11.4	14.2	14.2	14.2	14.2	17.2
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)