

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: P580721

Luminaire Tested: **HC445D010-HM44560830-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580721  
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: HC445D010-HM44560830-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4494.1 lumens  
Efficiency: N/A  
Efficacy: 102.1 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

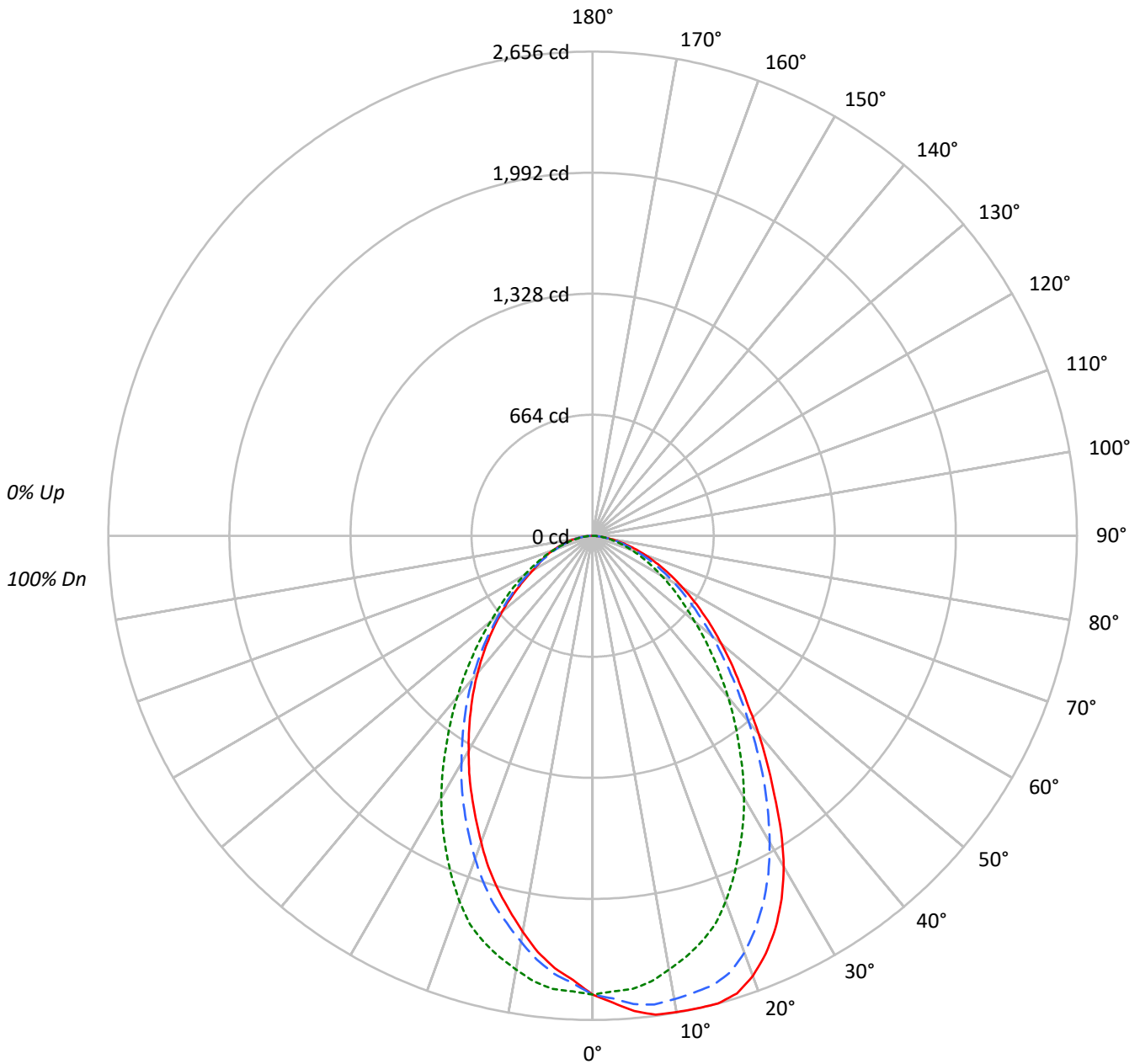
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	310399	310399	310399
5°	324066	309034	294733
10°	332247	302588	276260
15°	339137	294520	256339
20°	337316	280191	234722
25°	323162	259088	213550
30°	298542	236557	193559
35°	261703	210432	175197
40°	227870	185925	157796
45°	198317	162174	140997
50°	176694	139755	124423
55°	157887	122878	107609
60°	140959	107360	92756
65°	125296	94183	88142
70°	109995	81144	82226
75°	93170	69150	76204
80°	71458	58885	69398
85°	41891	45995	58591



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.9	5.2
10°-20°	650.7	14.5
20°-30°	889.0	19.8
30°-40°	892.7	19.9
40°-50°	738.5	16.4
50°-60°	535.2	11.9
60°-70°	339.0	7.5
70°-80°	171.4	3.8
80°-90°	41.9	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°	1775.6	39.5
0°-40°	2668.2	59.4
0°-60°	3941.8	87.7
0°-90°	4494.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4494.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2516	2516	2516	2516	2516	
5°	2617	2579	2496	2413	2380	251
15°	2656	2552	2306	2093	2007	747
25°	2374	2218	1904	1664	1569	1085
35°	1738	1634	1398	1226	1164	1089
45°	1137	1072	930	838	808	884
55°	734	669	571	521	500	660
65°	429	382	323	290	302	427
75°	196	169	145	151	160	209
85°	30	30	32	38	41	41
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°	2516.5	2516.5	2516.5	2516.5	2516.5	2516.5	2516.5	2516.5	2516.5
2.5°	2564.0	2555.0	2540.3	2522.5	2501.8	2478.0	2457.4	2445.5	2439.6
5°	2617.3	2605.4	2578.8	2540.3	2495.9	2451.5	2413.0	2389.3	2380.4
7.5°	2649.8	2632.1	2593.6	2534.4	2466.3	2401.1	2344.9	2312.3	2303.5
10°	2652.7	2632.1	2581.7	2501.8	2415.9	2330.1	2262.0	2214.6	2205.7
12.5°	2655.8	2629.1	2566.9	2472.2	2365.6	2259.0	2176.1	2119.9	2105.1
15°	2655.8	2629.1	2552.1	2439.6	2306.4	2185.0	2093.2	2028.0	2007.4
17.5°	2632.1	2602.5	2510.7	2380.4	2235.4	2099.1	1992.6	1924.5	1903.7
20°	2569.8	2537.3	2433.7	2291.6	2134.6	1992.6	1886.0	1814.9	1788.2
22.5°	2481.1	2442.6	2333.0	2179.0	2022.2	1877.1	1773.4	1699.4	1675.7
25°	2374.5	2336.0	2217.5	2066.6	1903.7	1767.5	1663.9	1595.8	1569.1
27.5°	2244.2	2202.7	2087.3	1936.2	1785.3	1649.1	1554.3	1492.1	1465.6
30°	2096.1	2051.8	1942.2	1797.1	1660.9	1530.6	1438.9	1388.6	1359.0
32.5°	1924.5	1886.0	1788.2	1658.0	1530.6	1406.3	1329.3	1284.9	1261.2
35°	1738.0	1717.2	1634.3	1521.8	1397.5	1293.8	1225.7	1184.3	1163.5
37.5°	1572.1	1551.4	1480.4	1385.6	1276.1	1181.4	1125.0	1089.6	1071.7
40°	1415.2	1397.5	1329.3	1249.5	1154.7	1071.7	1024.4	997.8	980.0
42.5°	1261.2	1252.4	1196.2	1122.1	1039.2	968.2	929.7	908.9	894.1
45°	1136.9	1125.0	1071.7	1000.7	929.7	870.4	837.9	823.1	808.3
47.5°	1027.3	1012.6	956.3	894.1	829.0	775.8	746.1	731.3	725.4
50°	920.8	906.0	855.6	793.5	728.3	689.8	666.1	651.3	648.4
52.5°	826.0	811.2	755.0	695.8	645.4	612.8	592.2	577.4	571.4
55°	734.2	716.5	669.2	612.8	571.4	541.8	521.1	506.2	500.4
57.5°	651.3	633.6	592.2	538.9	500.4	473.7	456.0	441.2	435.2
60°	571.4	556.6	518.1	467.8	435.2	411.5	393.8	381.9	376.0
62.5°	497.4	485.6	447.1	402.7	376.0	355.3	340.5	328.6	334.6
65°	429.3	417.5	381.9	343.4	322.7	302.0	290.1	290.1	302.0
67.5°	364.2	352.3	322.7	290.1	272.4	257.6	248.7	257.6	266.5
70°	305.0	293.1	266.5	239.8	225.0	213.2	213.2	222.0	228.0
72.5°	248.7	236.9	216.1	195.5	183.6	174.7	183.6	189.5	195.5
75°	195.5	186.5	168.7	153.9	145.1	142.2	151.0	157.0	159.9
77.5°	145.1	139.1	127.3	115.5	109.5	112.5	121.4	124.3	127.3
80°	100.6	97.7	88.9	82.9	82.9	85.8	91.8	94.7	97.7
82.5°	62.2	62.2	56.2	53.3	56.2	62.2	65.2	68.1	68.1
85°	29.6	32.5	29.6	29.6	32.5	38.5	38.5	41.4	41.4
87.5°	8.9	8.9	11.9	11.9	14.8	14.8	14.8	14.8	17.7
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)