

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: P580720

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580720  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560830-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3594.1 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

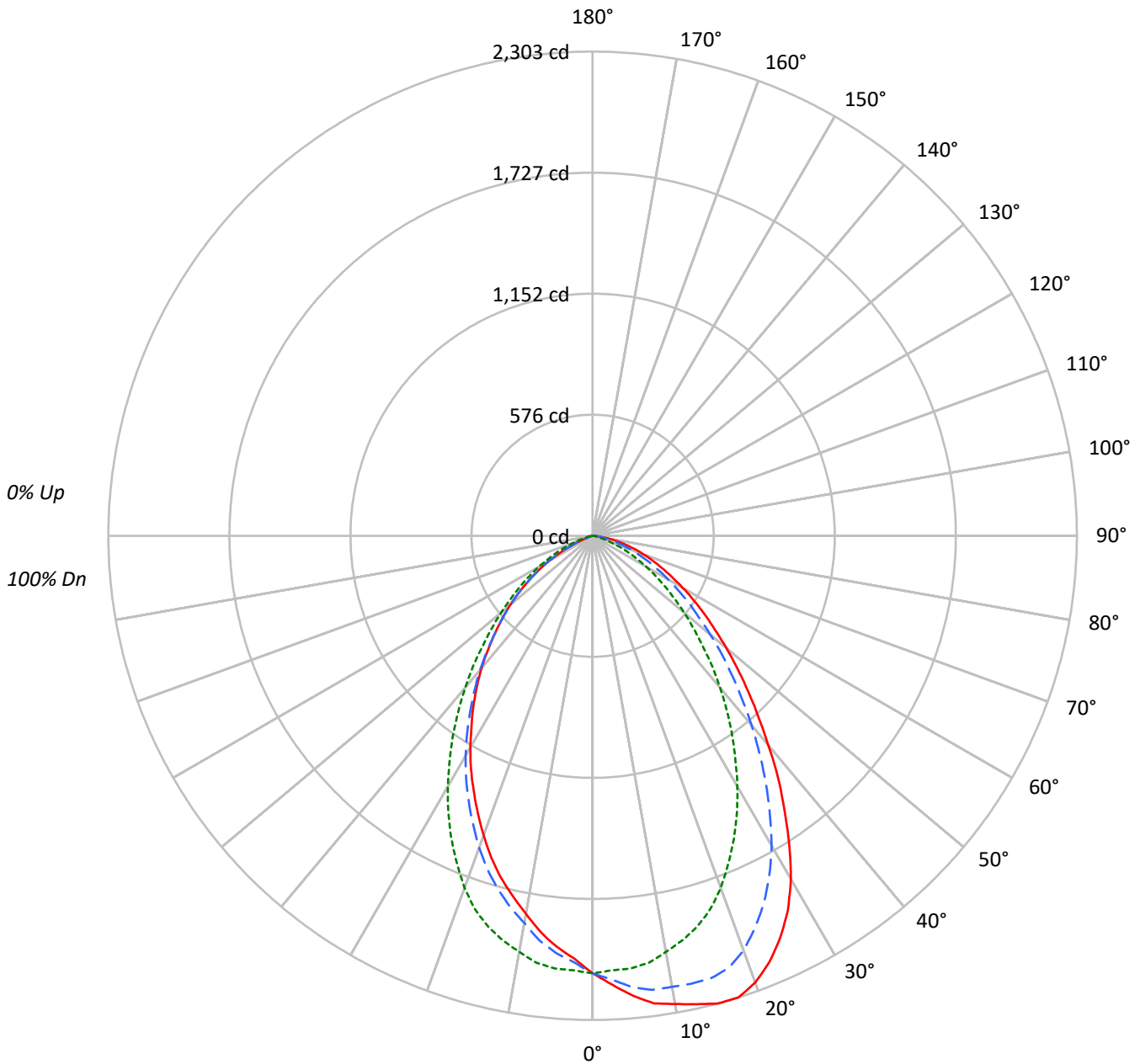
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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			
1	111	108	104	101	109	105	102	100	101	99	97	97	95	94	94	92	91	89			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	85	83	80	78			
3	96	87	80	75	94	86	79	74	83	78	73	80	76	72	78	74	71	69			
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61			
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55			
6	77	66	58	52	75	65	57	52	63	57	52	61	56	51	60	55	51	49			
7	72	60	53	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44			
8	68	56	48	43	66	55	48	43	54	47	42	53	47	42	51	46	42	40			
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	43	39	37			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	36	34			

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

	0°	90°	180°
0°	256645	256645	256645
5°	271926	255793	242978
10°	283224	251712	228729
15°	294047	245676	215054
20°	296822	233882	198914
25°	287219	216312	182084
30°	268532	196037	165671
35°	239327	174248	148861
40°	209225	151549	132500
45°	182252	128560	114605
50°	159021	109052	98268
55°	139393	90384	79546
60°	121915	73021	58392
65°	106266	54432	32805
70°	92864	35234	10675
75°	76204	18348	2812
80°	56755	8453	2060
85°	33541	4104	4104



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	196.4	5.5
10°-20°	549.6	15.3
20°-30°	759.9	21.1
30°-40°	764.1	21.3
40°-50°	616.6	17.2
50°-60°	416.9	11.6
60°-70°	212.2	5.9
70°-80°	67.9	1.9
80°-90°	10.4	0.3
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°	1505.9	41.9
0°-40°	2270.0	63.2
0°-60°	3303.5	91.9
0°-90°	3594.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3594.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2081	2081	2081	2081	2081	
5°	2196	2155	2066	1992	1962	212
15°	2303	2178	1924	1740	1684	649
25°	2110	1927	1589	1394	1338	966
35°	1589	1436	1157	1012	989	993
45°	1045	935	737	657	657	810
55°	648	559	420	367	370	582
65°	364	296	186	121	112	365
75°	160	112	38	9	6	172
85°	24	12	3	3	3	32
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°	2080.7	2080.7	2080.7	2080.7	2080.7	2080.7	2080.7	2080.7	2080.7
2.5°	2137.0	2125.2	2113.3	2092.6	2068.9	2045.2	2030.5	2018.6	2012.6
5°	2196.2	2181.4	2154.7	2110.4	2065.9	2024.5	1992.0	1971.2	1962.4
7.5°	2243.6	2222.8	2178.5	2116.3	2048.2	1983.0	1941.6	1912.0	1900.2
10°	2261.3	2237.6	2178.5	2095.6	2009.7	1929.8	1870.6	1841.0	1826.2
12.5°	2282.0	2255.3	2181.4	2077.8	1971.2	1876.5	1808.4	1770.0	1755.1
15°	2302.7	2267.2	2178.5	2051.1	1923.9	1814.4	1740.3	1701.8	1684.1
17.5°	2302.7	2261.3	2154.7	2006.7	1861.7	1746.3	1663.4	1619.0	1604.2
20°	2261.3	2213.9	2098.5	1935.7	1781.8	1657.5	1577.5	1533.2	1515.4
22.5°	2196.2	2142.9	2018.6	1849.8	1687.0	1565.8	1485.9	1444.4	1426.6
25°	2110.4	2057.1	1926.8	1752.2	1589.4	1468.0	1394.1	1355.6	1337.9
27.5°	2009.7	1950.5	1820.3	1645.6	1485.9	1370.4	1302.3	1266.9	1252.0
30°	1885.4	1829.2	1701.8	1530.2	1376.4	1269.8	1207.6	1175.1	1163.2
32.5°	1740.3	1693.0	1568.7	1408.9	1263.8	1166.2	1109.9	1083.3	1071.4
35°	1589.4	1545.0	1435.5	1287.5	1157.2	1065.6	1012.3	994.5	988.6
37.5°	1447.4	1408.9	1302.3	1166.2	1047.7	967.8	920.5	908.7	902.8
40°	1299.4	1272.7	1175.1	1050.8	941.2	870.2	831.7	822.9	822.9
42.5°	1166.2	1136.6	1050.8	938.2	840.6	769.6	742.9	734.0	737.0
45°	1044.8	1015.2	935.3	831.7	737.0	677.8	657.0	657.0	657.0
47.5°	932.4	905.7	831.7	725.1	648.2	600.8	580.1	580.1	583.1
50°	828.7	811.0	728.1	636.4	568.3	523.9	509.1	506.1	512.1
52.5°	731.1	710.3	636.4	553.5	488.4	452.8	438.0	435.1	438.0
55°	648.2	624.5	559.4	479.5	420.3	384.7	367.0	364.1	369.9
57.5°	568.3	550.6	482.5	411.4	355.2	319.7	304.8	298.9	301.9
60°	494.2	476.5	414.4	346.2	296.0	260.4	239.8	233.8	236.7
62.5°	426.2	411.4	352.2	287.1	236.7	204.2	183.6	168.7	174.6
65°	364.1	349.3	296.0	230.9	186.5	150.9	121.4	109.5	112.4
67.5°	310.8	293.1	242.7	183.6	139.1	100.6	68.1	62.2	62.2
70°	257.5	239.8	195.3	142.0	97.7	53.3	29.6	29.6	29.6
72.5°	207.2	192.4	150.9	106.6	62.2	23.7	11.9	11.9	11.9
75°	159.9	148.0	112.4	73.9	38.5	11.9	8.9	5.9	5.9
77.5°	118.4	106.6	79.9	50.3	23.7	5.9	5.9	5.9	5.9
80°	79.9	71.0	53.3	29.6	11.9	2.9	2.9	2.9	2.9
82.5°	47.3	41.4	29.6	14.8	5.9	2.9	2.9	2.9	2.9
85°	23.7	17.7	11.9	5.9	2.9	2.9	2.9	2.9	2.9
87.5°	5.9	2.9	2.9	2.9	0.0	0.0	0.0	0.0	0.0
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)