

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: P580701

Luminaire Tested: **HC445D010-HM44560827-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580701  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560827-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4089.9 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

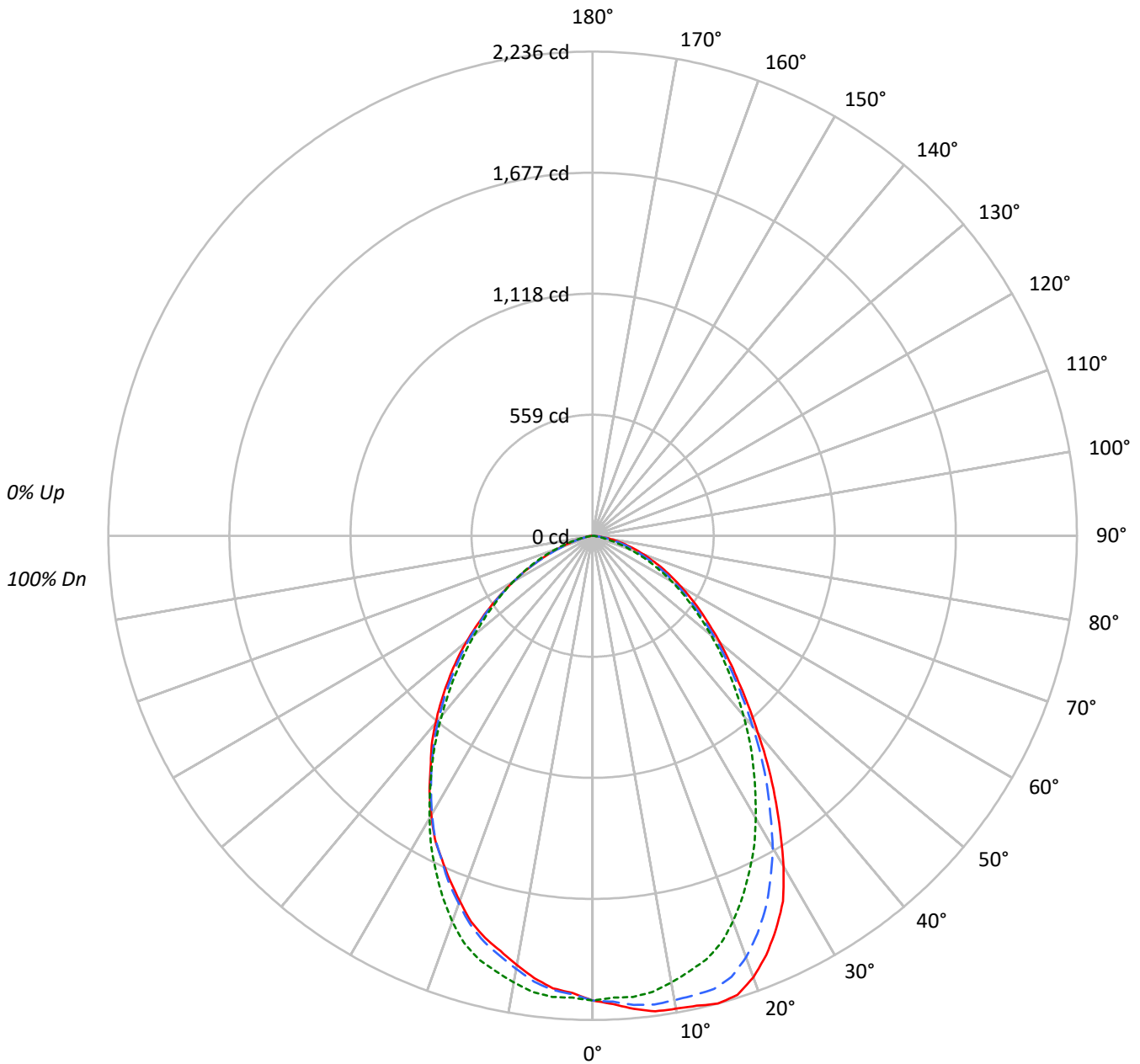
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	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	41	37	47	41	37	46	41	37	35																			
10	58	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°	264663	264663	264663
5°	271617	264683	259743
10°	277763	262408	252062
15°	285581	258688	245420
20°	284798	248767	235483
25°	272806	232903	224192
30°	250943	214510	212217
35°	220746	194666	196262
40°	190998	174252	181546
45°	165994	154830	164128
50°	147315	136569	145780
55°	130705	119802	124964
60°	116389	103906	103906
65°	103494	86362	80904
70°	89366	65348	57666
75°	74965	43225	35552
80°	56826	20812	18966
85°	30144	7642	7642



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.2	5.0
10°-20°	576.1	14.1
20°-30°	812.5	19.9
30°-40°	839.3	20.5
40°-50°	711.5	17.4
50°-60°	517.7	12.7
60°-70°	302.5	7.4
70°-80°	112.4	2.7
80°-90°	14.7	0.4
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°	1591.8	38.9
0°-40°	2431.1	59.4
0°-60°	3660.3	89.5
0°-90°	4089.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4089.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2146	2146	2146	2146	2146	
5°	2194	2175	2138	2106	2098	210
15°	2236	2167	2026	1940	1922	629
25°	2004	1893	1711	1650	1647	917
35°	1466	1402	1293	1296	1303	916
45°	952	925	888	920	941	741
55°	608	578	557	576	581	547
65°	355	325	296	277	277	352
75°	157	131	91	72	75	169
85°	21	13	5	5	5	30
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°	2145.7	2145.7	2145.7	2145.7	2145.7	2145.7	2145.7	2145.7	2145.7
2.5°	2164.5	2159.1	2153.8	2145.7	2135.1	2127.1	2119.1	2113.7	2113.7
5°	2193.7	2185.8	2175.1	2156.5	2137.7	2121.8	2105.8	2097.8	2097.8
7.5°	2215.1	2204.4	2183.1	2156.5	2124.4	2100.5	2076.5	2065.8	2060.4
10°	2217.7	2207.1	2177.8	2137.7	2095.1	2057.7	2031.2	2015.1	2012.5
12.5°	2223.0	2209.8	2172.4	2116.4	2060.4	2015.1	1985.8	1969.9	1964.5
15°	2236.4	2217.7	2167.1	2095.1	2025.8	1972.5	1940.5	1927.1	1921.9
17.5°	2223.0	2196.4	2135.1	2049.8	1972.5	1913.9	1881.9	1868.6	1868.6
20°	2169.7	2143.1	2071.1	1977.9	1895.2	1839.2	1807.2	1799.2	1794.0
22.5°	2095.1	2065.8	1988.5	1889.9	1807.2	1756.6	1735.3	1724.6	1721.9
25°	2004.5	1975.2	1892.6	1791.3	1711.3	1668.6	1650.0	1650.0	1647.3
27.5°	1903.2	1865.9	1780.6	1692.6	1615.3	1583.4	1575.3	1575.3	1578.0
30°	1761.9	1735.3	1663.3	1578.0	1506.1	1484.7	1484.7	1490.0	1490.0
32.5°	1610.0	1591.3	1527.4	1452.8	1396.8	1383.4	1388.7	1399.4	1402.1
35°	1466.0	1444.7	1402.1	1335.4	1292.8	1287.5	1295.5	1303.4	1303.4
37.5°	1324.7	1303.4	1274.1	1220.8	1188.9	1191.5	1202.1	1212.8	1220.8
40°	1186.2	1170.1	1148.8	1106.2	1082.2	1092.8	1106.2	1116.8	1127.5
42.5°	1063.5	1047.6	1031.6	999.6	983.5	996.9	1012.9	1023.6	1034.3
45°	951.6	940.9	925.0	898.3	887.6	901.0	919.6	930.3	940.9
47.5°	855.6	850.4	828.9	805.0	799.6	813.0	828.9	842.3	850.4
50°	767.7	759.7	741.0	717.1	711.7	733.0	743.7	751.7	759.7
52.5°	682.4	674.4	653.0	631.7	631.7	647.7	655.7	658.4	666.4
55°	607.8	599.7	578.4	562.5	557.1	570.4	575.8	575.8	581.1
57.5°	538.4	530.5	509.2	490.4	487.8	495.8	495.8	495.8	498.5
60°	471.8	463.8	442.5	426.5	421.2	423.8	421.2	418.5	421.2
62.5°	410.5	402.5	381.1	362.5	357.1	357.1	349.2	346.5	349.2
65°	354.6	341.2	325.2	306.5	295.9	287.9	277.2	277.2	277.2
67.5°	298.6	287.9	269.2	250.5	237.2	224.0	207.9	213.3	215.9
70°	247.8	239.9	218.6	199.9	181.2	165.3	151.9	157.3	159.9
72.5°	202.6	192.0	173.2	151.9	136.0	114.7	106.6	112.0	112.0
75°	157.3	146.6	130.6	109.3	90.7	71.9	71.9	74.6	74.6
77.5°	117.2	106.6	90.7	71.9	56.0	42.6	45.3	45.3	45.3
80°	80.0	71.9	58.7	42.6	29.3	24.0	24.0	24.0	26.7
82.5°	45.3	39.9	32.0	21.3	13.4	13.4	13.4	13.4	13.4
85°	21.3	16.0	13.4	8.0	5.4	5.4	5.4	5.4	5.4
87.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)