

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: P580793

Luminaire Tested: **HC445D010-HM44560930-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580793  
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-HM44560930-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3810.0 lumens  
Efficiency: N/A  
Efficacy: 86.6 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

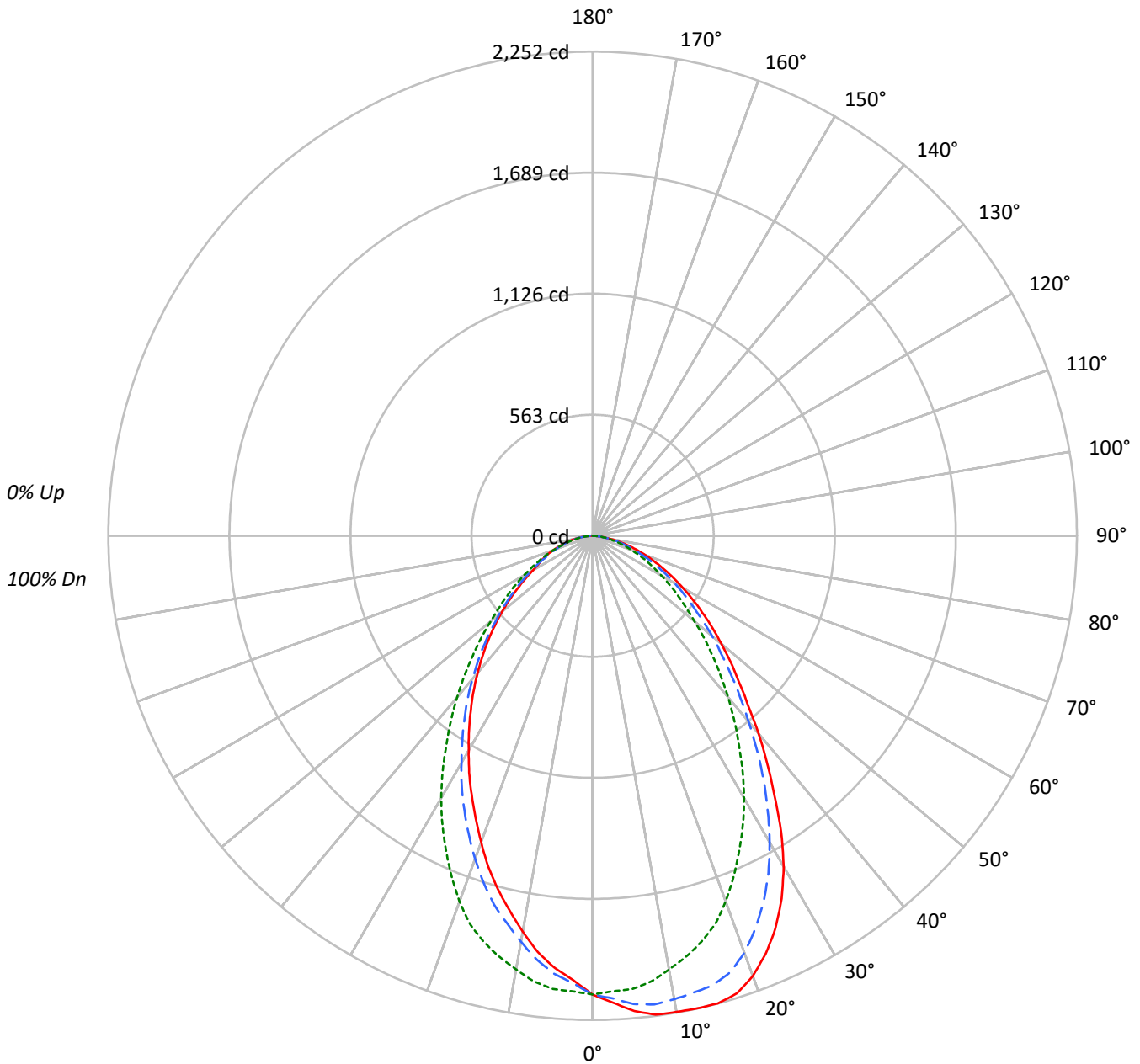
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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				100															
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87				87															
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76				76															
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66				66															
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58				58															
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52				52															
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47				47															
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42				42															
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				38															
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35															
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32				32															

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

	0°	90°	180°
0°	263158	263158	263158
5°	274737	261996	249862
10°	281671	256534	234202
15°	287509	249686	217302
20°	285980	237544	198993
25°	273963	219647	181063
30°	253107	200552	164090
35°	221860	178389	148544
40°	193187	157619	133772
45°	168122	137474	119524
50°	149791	118474	105483
55°	133866	104190	91223
60°	119522	91029	78645
65°	106237	79824	74716
70°	93225	68774	69711
75°	78920	58618	64575
80°	60661	49864	58814
85°	35522	39060	49675



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.0	5.2
10°-20°	551.6	14.5
20°-30°	753.7	19.8
30°-40°	756.8	19.9
40°-50°	626.0	16.4
50°-60°	453.7	11.9
60°-70°	287.4	7.5
70°-80°	145.3	3.8
80°-90°	35.6	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°	1505.3	39.5
0°-40°	2262.1	59.4
0°-60°	3341.8	87.7
0°-90°	3810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3810.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2134	2134	2134	2134	2134	
5°	2219	2186	2116	2046	2018	213
15°	2252	2164	1955	1775	1702	633
25°	2013	1880	1614	1411	1330	920
35°	1473	1386	1185	1039	986	924
45°	964	909	788	710	685	750
55°	622	567	484	442	424	560
65°	364	324	274	246	256	362
75°	166	143	123	128	136	177
85°	25	25	28	33	35	35
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°	2133.5	2133.5	2133.5	2133.5	2133.5	2133.5	2133.5	2133.5	2133.5
2.5°	2173.7	2166.1	2153.6	2138.5	2120.9	2100.8	2083.3	2073.2	2068.3
5°	2218.9	2208.8	2186.2	2153.6	2116.0	2078.3	2045.6	2025.5	2018.0
7.5°	2246.5	2231.4	2198.8	2148.5	2090.8	2035.6	1988.0	1960.4	1952.8
10°	2248.9	2231.4	2188.7	2120.9	2048.2	1975.4	1917.6	1877.4	1869.9
12.5°	2251.5	2228.9	2176.2	2095.9	2005.5	1915.1	1844.9	1797.2	1784.7
15°	2251.5	2228.9	2163.7	2068.3	1955.3	1852.4	1774.6	1719.4	1701.7
17.5°	2231.4	2206.3	2128.5	2018.0	1895.1	1779.6	1689.3	1631.5	1613.9
20°	2178.7	2151.1	2063.2	1942.7	1809.7	1689.3	1598.9	1538.6	1516.0
22.5°	2103.4	2070.8	1977.9	1847.4	1714.3	1591.3	1503.5	1440.8	1420.7
25°	2013.0	1980.4	1880.0	1752.0	1613.9	1498.4	1410.6	1352.9	1330.4
27.5°	1902.6	1867.5	1769.5	1641.6	1513.6	1398.1	1317.8	1265.1	1242.5
30°	1777.1	1739.4	1646.5	1523.6	1408.1	1297.7	1219.8	1177.2	1152.1
32.5°	1631.5	1598.9	1516.0	1405.6	1297.7	1192.2	1127.0	1089.3	1069.3
35°	1473.4	1455.8	1385.6	1290.2	1184.7	1096.9	1039.2	1004.0	986.5
37.5°	1332.8	1315.2	1255.0	1174.7	1081.8	1001.5	953.8	923.6	908.6
40°	1199.8	1184.7	1127.0	1059.3	978.9	908.6	868.4	845.9	830.8
42.5°	1069.3	1061.7	1014.1	951.3	881.0	820.7	788.1	770.6	758.0
45°	963.8	953.8	908.6	848.3	788.1	737.9	710.3	697.8	685.2
47.5°	871.0	858.4	810.8	758.0	702.8	657.6	632.5	620.0	615.0
50°	780.6	768.0	725.4	672.6	617.4	584.8	564.7	552.2	549.7
52.5°	700.2	687.8	640.1	589.8	547.2	519.6	502.0	489.4	484.5
55°	622.5	607.5	567.3	519.6	484.5	459.3	441.7	429.2	424.2
57.5°	552.2	537.1	502.0	456.9	424.2	401.6	386.5	374.0	369.0
60°	484.5	471.9	439.3	396.6	369.0	348.9	333.8	323.8	318.8
62.5°	421.6	411.7	379.0	341.3	318.8	301.3	288.7	278.6	283.6
65°	364.0	353.9	323.8	291.2	273.5	256.0	245.9	245.9	256.0
67.5°	308.8	298.7	273.5	245.9	230.9	218.3	210.8	218.3	225.9
70°	258.5	248.5	225.9	203.3	190.7	180.8	180.8	188.3	193.3
72.5°	210.8	200.8	183.2	165.6	155.6	148.1	155.6	160.7	165.6
75°	165.6	158.1	143.1	130.5	123.0	120.5	128.0	133.1	135.5
77.5°	123.0	117.9	107.9	97.8	92.9	95.4	102.9	105.5	107.9
80°	85.4	82.8	75.3	70.2	70.2	72.8	77.8	80.3	82.8
82.5°	52.7	52.7	47.7	45.2	47.7	52.7	55.2	57.8	57.8
85°	25.1	27.6	25.1	25.1	27.6	32.7	32.7	35.1	35.1
87.5°	7.5	7.5	10.0	10.0	12.6	12.6	12.6	12.6	15.0
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)