

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: P580703

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580703  
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-HM44560827-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4047.2 lumens  
Efficiency: N/A  
Efficacy: 92.0 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

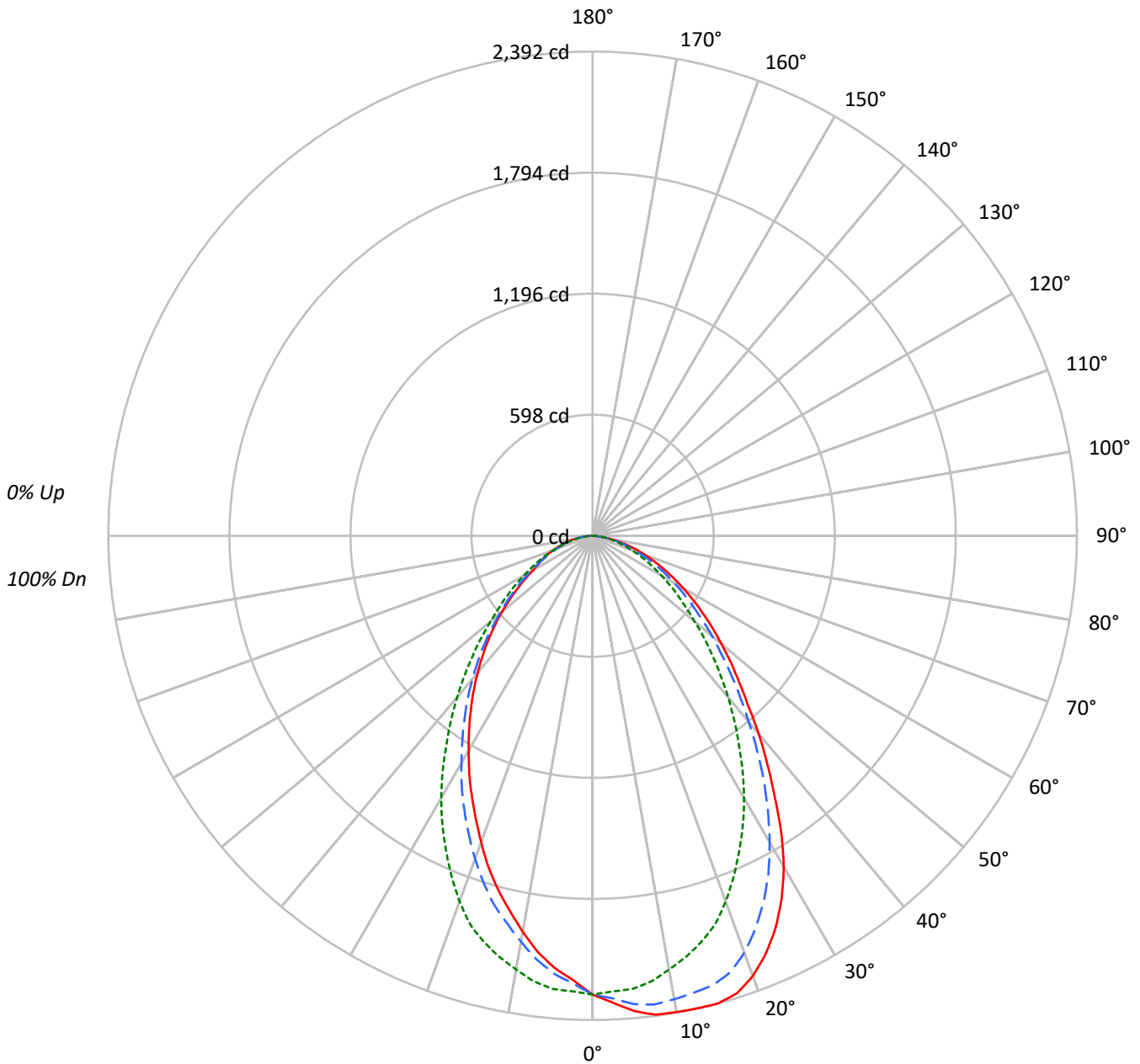
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	279538	279538	279538
5°	291836	278303	265426
10°	299219	272503	248793
15°	305412	265226	230850
20°	303779	252337	211384
25°	291016	233324	192332
30°	268874	213028	174317
35°	235668	189486	157775
40°	205215	167441	142113
45°	178589	146039	126955
50°	159117	125862	112046
55°	142189	110641	96900
60°	126923	96678	83530
65°	112833	84815	79386
70°	99067	73065	74039
75°	83829	62240	68626
80°	64426	52990	62508
85°	37787	41466	52930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	212.4	5.2
10°-20°	586.0	14.5
20°-30°	800.6	19.8
30°-40°	803.9	19.9
40°-50°	665.0	16.4
50°-60°	481.9	11.9
60°-70°	305.3	7.5
70°-80°	154.3	3.8
80°-90°	37.8	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°	1599.0	39.5
0°-40°	2402.9	59.4
0°-60°	3549.8	87.7
0°-90°	4047.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4047.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2266	2266	2266	2266	2266	
5°	2357	2322	2248	2173	2144	226
15°	2392	2298	2077	1885	1808	673
25°	2138	1997	1714	1498	1413	977
35°	1565	1472	1258	1104	1048	981
45°	1024	965	837	754	728	796
55°	661	603	514	469	451	595
65°	387	344	291	261	272	385
75°	176	152	131	136	144	188
85°	27	27	29	35	37	37
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°	2266.3	2266.3	2266.3	2266.3	2266.3	2266.3	2266.3	2266.3	2266.3
2.5°	2309.0	2301.0	2287.6	2271.7	2253.0	2231.7	2213.0	2202.4	2197.0
5°	2357.0	2346.3	2322.3	2287.6	2247.7	2207.6	2173.0	2151.7	2143.7
7.5°	2386.3	2370.3	2335.7	2282.4	2221.0	2162.3	2111.7	2082.3	2074.4
10°	2389.0	2370.3	2325.0	2253.0	2175.7	2098.4	2037.0	1994.4	1986.4
12.5°	2391.7	2367.6	2311.7	2226.4	2130.3	2034.4	1959.7	1909.1	1895.7
15°	2391.7	2367.6	2298.3	2197.0	2077.0	1967.8	1885.1	1826.4	1807.8
17.5°	2370.3	2343.6	2261.1	2143.7	2013.1	1890.3	1794.4	1733.0	1714.4
20°	2314.3	2285.0	2191.7	2063.7	1922.4	1794.4	1698.4	1634.4	1610.4
22.5°	2234.4	2199.7	2101.1	1962.4	1821.1	1690.4	1597.1	1530.4	1509.1
25°	2138.3	2103.6	1997.0	1861.1	1714.4	1591.8	1498.4	1437.2	1413.2
27.5°	2021.1	1983.7	1879.7	1743.7	1607.7	1485.1	1399.8	1343.8	1319.8
30°	1887.8	1847.7	1749.1	1618.5	1495.7	1378.5	1295.8	1250.5	1223.9
32.5°	1733.0	1698.4	1610.4	1493.2	1378.5	1266.5	1197.2	1157.1	1135.8
35°	1565.1	1546.5	1471.8	1370.5	1258.4	1165.2	1103.8	1066.5	1047.8
37.5°	1415.7	1397.1	1333.2	1247.8	1149.2	1063.9	1013.2	981.2	965.1
40°	1274.5	1258.4	1197.2	1125.1	1039.9	965.1	922.5	898.5	882.6
42.5°	1135.8	1127.8	1077.2	1010.5	935.9	871.9	837.2	818.5	805.3
45°	1023.8	1013.2	965.1	901.2	837.2	783.9	754.5	741.2	727.8
47.5°	925.2	911.8	861.2	805.3	746.6	698.6	671.9	658.6	653.2
50°	829.2	815.9	770.6	714.6	655.9	621.3	599.9	586.6	583.9
52.5°	743.9	730.5	679.9	626.5	581.2	551.9	533.3	519.9	514.5
55°	661.2	645.3	602.6	551.9	514.5	488.0	469.2	456.0	450.6
57.5°	586.6	570.5	533.3	485.3	450.6	426.6	410.7	397.3	391.9
60°	514.5	501.3	466.6	421.3	391.9	370.6	354.7	344.0	338.6
62.5°	447.9	437.2	402.6	362.6	338.6	320.0	306.6	296.0	301.3
65°	386.6	376.0	344.0	309.3	290.6	272.0	261.3	261.3	272.0
67.5°	328.0	317.3	290.6	261.3	245.3	231.9	224.0	231.9	240.0
70°	274.7	264.0	240.0	216.0	202.6	192.0	192.0	199.9	205.3
72.5°	224.0	213.3	194.7	175.9	165.3	157.3	165.3	170.7	175.9
75°	175.9	168.0	152.0	138.7	130.6	128.0	136.0	141.3	144.0
77.5°	130.6	125.3	114.7	104.0	98.6	101.3	109.3	112.0	114.7
80°	90.7	88.0	80.0	74.6	74.6	77.3	82.7	85.3	88.0
82.5°	56.0	56.0	50.7	48.0	50.7	56.0	58.7	61.4	61.4
85°	26.7	29.3	26.7	26.7	29.3	34.7	34.7	37.4	37.4
87.5°	8.0	8.0	10.7	10.7	13.4	13.4	13.4	13.4	16.0
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)