

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: P580596

Luminaire Tested: **HC440D010-HM43040835-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580596  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC440D010-HM43040835-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4119.0 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

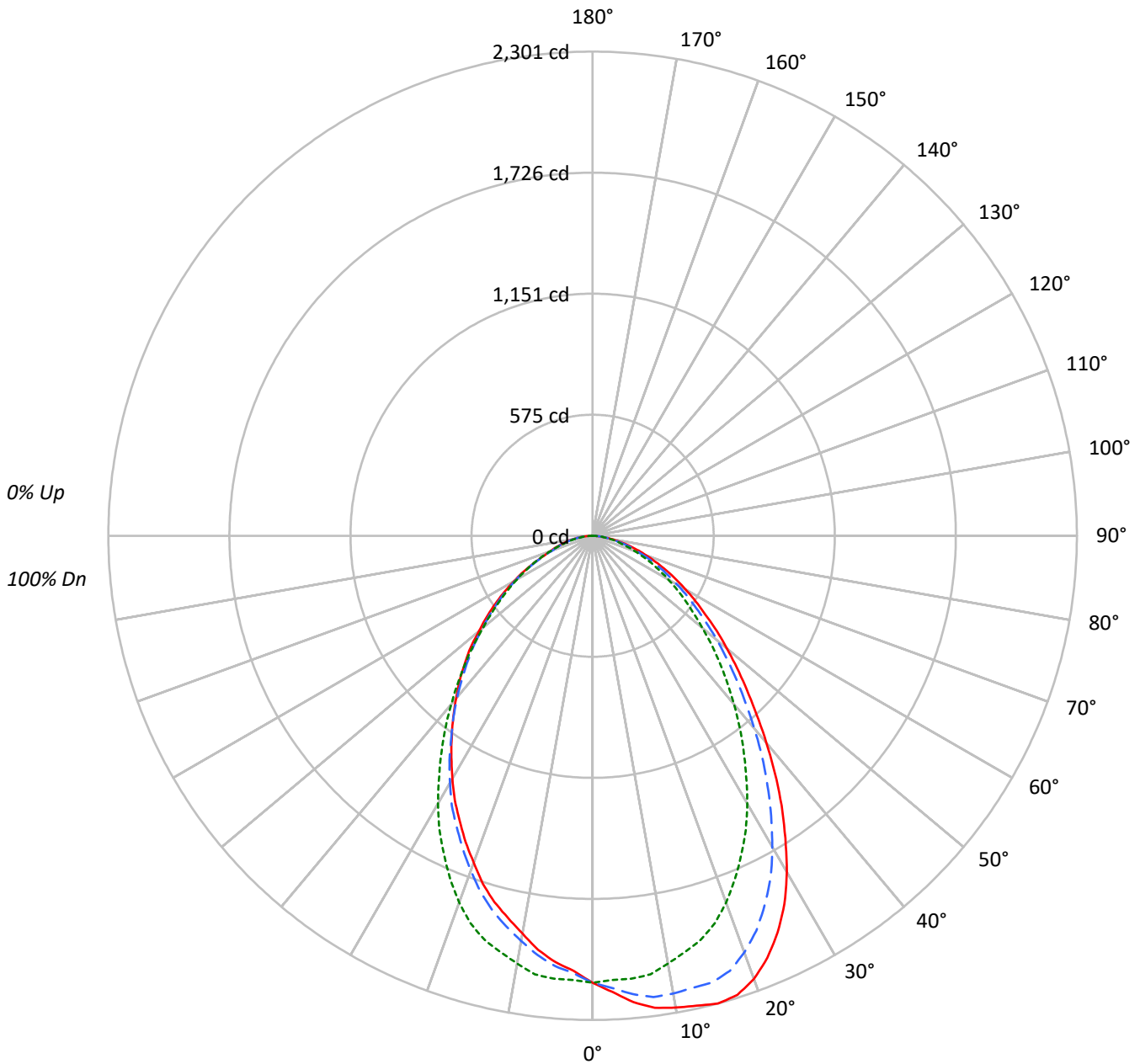
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66																			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58																			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51																			
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46																			
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

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

	0°	90°	180°
0°	261986	261986	261986
5°	275468	261625	251831
10°	285141	258513	240402
15°	293856	253810	230135
20°	294171	243359	216871
25°	283109	227459	203342
30°	262892	209297	189884
35°	235653	188447	175724
40°	206777	168133	162433
45°	180717	148865	149807
50°	159577	130275	134977
55°	140705	115501	121372
60°	125763	102229	106275
65°	111403	89922	89922
70°	97336	76708	76708
75°	83162	64957	72772
80°	65847	58104	65847
85°	42457	50099	61704



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	201.2	4.9
10°-20°	566.7	13.8
20°-30°	793.9	19.3
30°-40°	817.9	19.9
40°-50°	696.4	16.9
50°-60°	516.0	12.5
60°-70°	323.8	7.9
70°-80°	160.9	3.9
80°-90°	42.2	1.0
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°	1561.8	37.9
0°-40°	2379.8	57.8
0°-60°	3592.1	87.2
0°-90°	4119.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4119.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2124	2124	2124	2124	2124	
5°	2225	2187	2113	2053	2034	214
15°	2301	2198	1988	1843	1802	647
25°	2080	1936	1671	1527	1494	951
35°	1565	1448	1252	1170	1167	976
45°	1036	965	853	837	859	804
55°	654	602	537	548	564	592
65°	382	344	308	303	308	381
75°	174	155	136	147	153	186
85°	30	30	35	41	44	39
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°	2124.0	2124.0	2124.0	2124.0	2124.0	2124.0	2124.0	2124.0	2124.0
2.5°	2170.3	2162.1	2151.2	2132.1	2113.0	2096.6	2080.2	2072.2	2069.4
5°	2224.8	2208.5	2186.6	2151.2	2113.0	2080.2	2053.0	2039.4	2033.9
7.5°	2263.0	2246.6	2211.2	2156.6	2102.1	2053.0	2009.4	1990.3	1984.8
10°	2276.6	2257.5	2208.5	2134.8	2064.0	2003.9	1954.9	1930.4	1919.4
12.5°	2287.5	2263.0	2200.3	2113.0	2025.8	1952.1	1900.3	1867.6	1859.4
15°	2301.2	2273.8	2197.5	2091.2	1987.6	1900.3	1843.0	1813.1	1802.2
17.5°	2287.5	2257.5	2167.6	2047.6	1930.4	1835.0	1772.2	1744.9	1734.1
20°	2241.1	2208.5	2107.6	1979.5	1854.0	1755.8	1693.2	1665.9	1652.2
22.5°	2170.3	2134.8	2031.3	1894.9	1766.7	1671.3	1611.3	1584.1	1575.9
25°	2080.2	2044.8	1935.7	1796.7	1671.3	1578.6	1526.8	1502.3	1494.1
27.5°	1974.0	1938.5	1832.2	1695.8	1575.9	1488.7	1447.8	1423.2	1417.7
30°	1845.8	1810.4	1706.7	1581.4	1469.5	1387.8	1355.1	1336.0	1333.2
32.5°	1704.0	1674.1	1578.6	1464.1	1357.8	1289.6	1265.0	1251.5	1248.7
35°	1565.0	1532.3	1447.8	1344.2	1251.5	1191.5	1169.7	1167.0	1167.0
37.5°	1423.2	1390.5	1322.3	1226.9	1147.8	1093.3	1085.1	1087.8	1087.8
40°	1284.2	1254.2	1194.2	1115.2	1044.2	1003.3	1000.6	1006.1	1008.8
42.5°	1153.3	1128.7	1074.3	1006.1	946.1	913.4	916.1	927.0	935.1
45°	1036.0	1014.3	965.2	905.2	853.4	828.9	837.1	850.6	858.8
47.5°	929.8	910.6	864.3	809.8	766.1	749.7	760.7	777.1	788.0
50°	831.6	815.2	771.6	714.3	678.9	668.0	681.6	697.9	703.4
52.5°	744.3	728.0	681.6	632.6	605.2	599.8	613.4	627.1	635.3
55°	654.3	640.8	602.5	558.9	537.1	534.4	548.1	558.9	564.4
57.5°	580.8	567.1	531.7	493.5	474.4	471.7	485.3	493.5	496.3
60°	509.8	496.3	463.5	428.1	414.4	414.4	422.6	428.1	430.8
62.5°	444.4	430.8	400.8	370.8	359.8	359.8	359.8	362.6	370.8
65°	381.7	370.8	343.6	316.2	308.1	302.7	302.7	302.7	308.1
67.5°	324.4	313.5	291.7	267.2	259.1	250.9	248.1	253.6	253.6
70°	269.9	261.8	239.9	220.8	212.7	204.5	201.8	212.7	212.7
72.5°	220.8	212.7	199.0	179.9	171.7	169.0	174.5	179.9	182.7
75°	174.5	166.4	155.4	144.5	136.3	139.0	147.2	150.0	152.7
77.5°	130.8	128.1	117.3	109.1	109.1	111.8	117.3	122.6	125.4
80°	92.7	90.0	84.5	79.0	81.8	87.2	90.0	95.4	92.7
82.5°	57.3	57.3	54.5	54.5	57.3	62.7	65.5	68.2	70.8
85°	30.0	30.0	30.0	32.7	35.4	38.2	40.9	43.6	43.6
87.5°	8.2	10.9	10.9	13.7	16.4	16.4	19.1	19.1	19.1
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)