

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: P580666

Luminaire Tested: **HC440D010-HM43040935-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580666  
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: HC440D010-HM43040935-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2950.6 lumens  
Efficiency: N/A  
Efficacy: 72.0 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

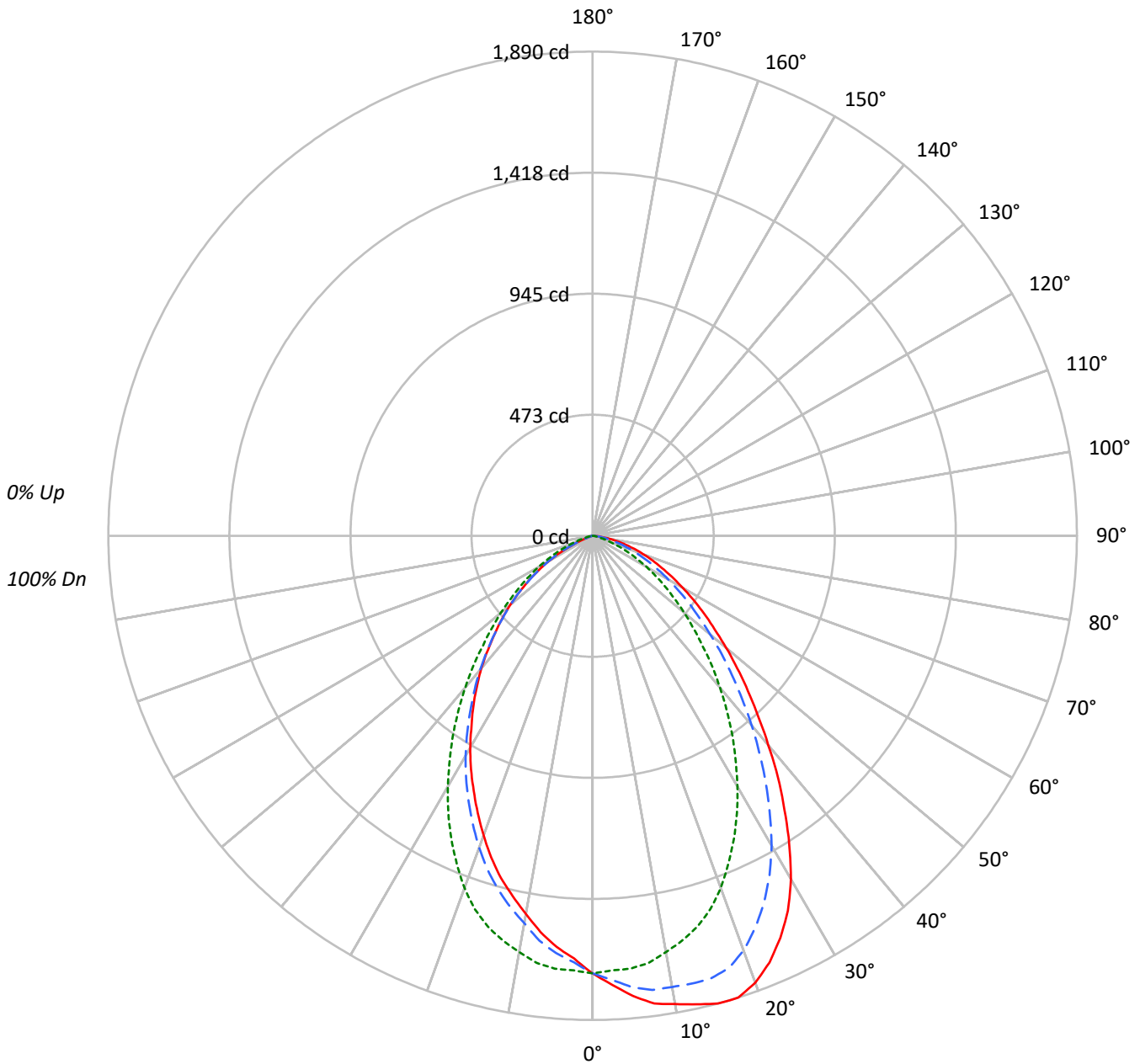
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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																			
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°	210699	210699	210699
5°	223229	209993	199469
10°	232511	206647	187772
15°	241411	201684	176541
20°	243674	192010	163303
25°	235788	177579	149462
30°	220449	160929	136004
35°	196473	143048	122208
40°	171756	124417	108766
45°	149615	105534	94091
50°	130544	89537	80671
55°	114426	74191	65310
60°	100107	59946	47957
65°	87237	44684	26968
70°	76239	28923	8764
75°	62526	15060	2288
80°	46597	6961	1776
85°	27456	3538	3538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.2	5.5
10°-20°	451.2	15.3
20°-30°	623.8	21.1
30°-40°	627.3	21.3
40°-50°	506.2	17.2
50°-60°	342.3	11.6
60°-70°	174.2	5.9
70°-80°	55.8	1.9
80°-90°	8.6	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°	1236.3	41.9
0°-40°	1863.6	63.2
0°-60°	2712.0	91.9
0°-90°	2950.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2950.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1708	1708	1708	1708	1708	
5°	1803	1769	1696	1635	1611	174
15°	1890	1788	1579	1429	1382	532
25°	1732	1582	1305	1144	1098	793
35°	1305	1178	950	831	812	815
45°	858	768	605	539	539	665
55°	532	459	345	301	304	478
65°	299	243	153	100	92	300
75°	131	92	32	7	5	141
85°	19	10	2	2	2	26
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°	1708.2	1708.2	1708.2	1708.2	1708.2	1708.2	1708.2	1708.2	1708.2
2.5°	1754.4	1744.6	1734.9	1717.9	1698.4	1679.0	1666.8	1657.2	1652.2
5°	1802.9	1790.8	1768.9	1732.5	1696.0	1662.0	1635.3	1618.3	1611.0
7.5°	1841.8	1824.8	1788.3	1737.3	1681.4	1628.0	1593.9	1569.6	1560.0
10°	1856.4	1837.0	1788.3	1720.3	1649.9	1584.2	1535.7	1511.3	1499.2
12.5°	1873.4	1851.6	1790.8	1705.7	1618.3	1540.5	1484.7	1453.0	1440.9
15°	1890.5	1861.2	1788.3	1683.9	1579.4	1489.5	1428.7	1397.1	1382.5
17.5°	1890.5	1856.4	1768.9	1647.4	1528.4	1433.6	1365.6	1329.1	1317.0
20°	1856.4	1817.5	1722.8	1589.1	1462.8	1360.7	1295.1	1258.7	1244.1
22.5°	1802.9	1759.2	1657.2	1518.6	1385.0	1285.3	1219.8	1185.8	1171.2
25°	1732.5	1688.7	1581.8	1438.5	1304.8	1205.2	1144.4	1112.8	1098.2
27.5°	1649.9	1601.2	1494.3	1351.0	1219.8	1125.0	1069.1	1040.0	1027.8
30°	1547.8	1501.6	1397.1	1256.2	1129.9	1042.4	991.4	964.6	954.9
32.5°	1428.7	1389.8	1287.8	1156.6	1037.5	957.3	911.1	889.3	879.6
35°	1304.8	1268.4	1178.5	1057.0	950.0	874.7	831.0	816.4	811.6
37.5°	1188.1	1156.6	1069.1	957.3	860.1	794.6	755.7	745.9	741.1
40°	1066.7	1044.8	964.6	862.6	772.7	714.4	682.8	675.5	675.5
42.5°	957.3	933.0	862.6	770.2	690.1	631.8	609.9	602.6	605.0
45°	857.7	833.5	767.8	682.8	605.0	556.5	539.4	539.4	539.4
47.5°	765.4	743.6	682.8	595.3	532.1	493.2	476.2	476.2	478.7
50°	680.3	665.8	597.7	522.4	466.6	430.1	417.9	415.6	420.4
52.5°	600.2	583.1	522.4	454.3	400.9	371.7	359.6	357.2	359.6
55°	532.1	512.7	459.3	393.6	345.0	315.9	301.3	298.9	303.7
57.5°	466.6	452.0	396.0	337.8	291.6	262.4	250.3	245.4	247.9
60°	405.8	391.2	340.2	284.3	243.0	213.8	196.8	191.9	194.4
62.5°	349.9	337.8	289.1	235.7	194.4	167.7	150.7	138.6	143.4
65°	298.9	286.8	243.0	189.6	153.1	123.9	99.7	89.9	92.4
67.5°	255.1	240.6	199.2	150.7	114.2	82.6	55.9	51.0	51.0
70°	211.4	196.8	160.4	116.6	80.2	43.7	24.3	24.3	24.3
72.5°	170.1	157.9	123.9	87.4	51.0	19.4	9.8	9.8	9.8
75°	131.2	121.5	92.4	60.8	31.6	9.8	7.3	4.8	4.8
77.5°	97.2	87.4	65.6	41.3	19.4	4.8	4.8	4.8	4.8
80°	65.6	58.3	43.7	24.3	9.8	2.5	2.5	2.5	2.5
82.5°	38.9	34.0	24.3	12.1	4.8	2.5	2.5	2.5	2.5
85°	19.4	14.6	9.8	4.8	2.5	2.5	2.5	2.5	2.5
87.5°	4.8	2.5	2.5	2.5	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)