

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: P580865

Luminaire Tested: **HC450D010-HM44560830-41WWW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580865
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: HC450D010-HM44560830-41WWW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4747.8 lumens
Efficiency: N/A
Efficacy: 98.9 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

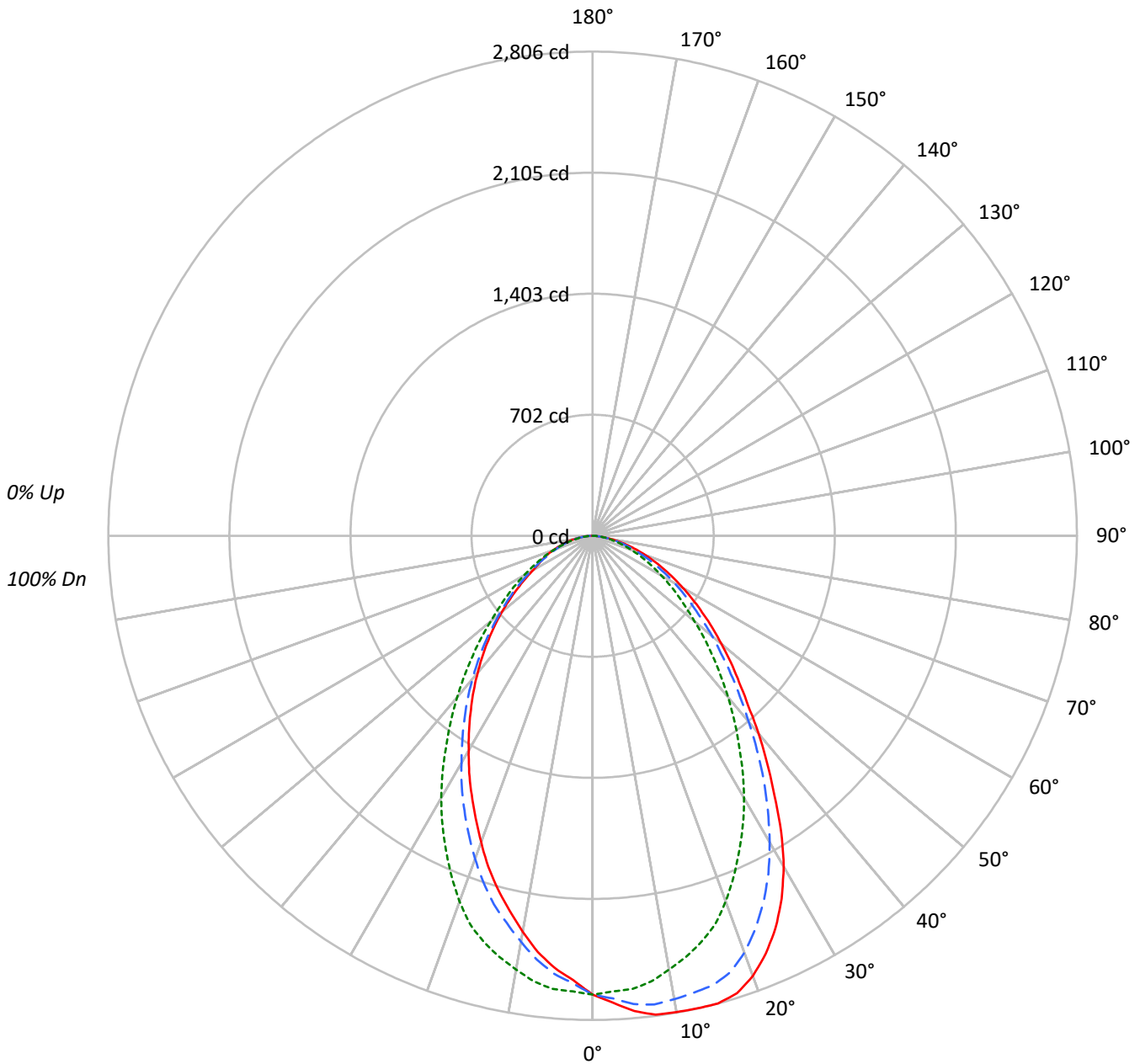
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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°	327939	327939	327939
5°	342353	326480	311374
10°	351009	319672	291854
15°	358279	311133	270807
20°	356362	296021	247980
25°	341399	273718	225608
30°	315391	249917	204483
35°	276475	222297	185090
40°	240735	196408	166700
45°	209516	171315	148952
50°	186653	147661	131446
55°	166812	129802	113674
60°	148903	113404	97986
65°	132359	99524	93104
70°	116162	85724	86878
75°	98412	73011	80493
80°	75578	62224	73305
85°	44297	48684	61987



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.2	5.2
10°-20°	687.4	14.5
20°-30°	939.2	19.8
30°-40°	943.1	19.9
40°-50°	780.1	16.4
50°-60°	565.4	11.9
60°-70°	358.1	7.5
70°-80°	181.0	3.8
80°-90°	44.3	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°	1875.8	39.5
0°-40°	2818.8	59.4
0°-60°	4164.3	87.7
0°-90°	4747.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4747.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2659	2659	2659	2659	2659	
5°	2765	2724	2637	2549	2515	265
15°	2806	2696	2436	2211	2121	789
25°	2508	2343	2011	1758	1658	1146
35°	1836	1727	1476	1295	1229	1151
45°	1201	1132	982	885	854	934
55°	776	707	604	550	529	698
65°	454	404	341	306	319	451
75°	206	178	153	160	169	220
85°	31	31	34	41	44	43
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°	2658.7	2658.7	2658.7	2658.7	2658.7	2658.7	2658.7	2658.7	2658.7
2.5°	2708.7	2699.3	2683.7	2664.9	2643.0	2617.9	2596.0	2583.5	2577.3
5°	2765.0	2752.4	2724.3	2683.7	2636.8	2589.8	2549.2	2524.2	2514.8
7.5°	2799.4	2780.6	2739.9	2677.4	2605.4	2536.7	2477.2	2442.8	2433.4
10°	2802.5	2780.6	2727.4	2643.0	2552.3	2461.5	2389.7	2339.6	2330.2
12.5°	2805.7	2777.5	2711.8	2611.7	2499.2	2386.5	2298.9	2239.5	2223.9
15°	2805.7	2777.5	2696.2	2577.3	2436.5	2308.3	2211.3	2142.6	2120.7
17.5°	2780.6	2749.3	2652.4	2514.8	2361.5	2217.7	2105.0	2033.1	2011.2
20°	2714.9	2680.5	2571.0	2420.9	2255.2	2105.0	1992.4	1917.3	1889.2
22.5°	2621.0	2580.4	2464.7	2302.1	2136.3	1983.1	1873.6	1795.3	1770.3
25°	2508.5	2467.8	2342.7	2183.2	2011.2	1867.3	1757.8	1685.9	1657.7
27.5°	2370.9	2327.1	2205.1	2045.6	1886.1	1742.2	1642.1	1576.4	1548.3
30°	2214.4	2167.6	2051.8	1898.6	1754.7	1617.1	1520.1	1466.9	1435.7
32.5°	2033.1	1992.4	1889.2	1751.6	1617.1	1485.7	1404.3	1357.5	1332.5
35°	1836.1	1814.2	1726.6	1607.7	1476.3	1366.8	1294.9	1251.1	1229.2
37.5°	1660.8	1638.9	1563.9	1463.8	1348.1	1248.0	1188.6	1151.1	1132.2
40°	1495.1	1476.3	1404.3	1320.0	1219.8	1132.2	1082.2	1054.1	1035.3
42.5°	1332.5	1323.1	1263.6	1185.5	1097.8	1022.8	982.1	960.2	944.6
45°	1201.1	1188.6	1132.2	1057.2	982.1	919.6	885.2	869.5	853.9
47.5°	1085.3	1069.7	1010.2	944.6	875.7	819.5	788.2	772.6	766.3
50°	972.7	957.1	904.0	838.2	769.5	728.7	703.7	688.1	685.0
52.5°	872.6	857.0	797.6	735.0	681.9	647.5	625.6	610.0	603.6
55°	775.7	757.0	706.9	647.5	603.6	572.4	550.5	534.9	528.6
57.5°	688.1	669.4	625.6	569.2	528.6	500.5	481.7	466.0	459.7
60°	603.6	588.0	547.4	494.2	459.7	434.7	416.0	403.5	397.2
62.5°	525.5	513.0	472.2	425.4	397.2	375.4	359.7	347.2	353.5
65°	453.5	441.0	403.5	362.9	341.0	319.0	306.5	306.5	319.0
67.5°	384.7	372.2	341.0	306.5	287.7	272.1	262.7	272.1	281.5
70°	322.1	309.6	281.5	253.4	237.7	225.2	225.2	234.6	240.9
72.5°	262.7	250.2	228.4	206.5	193.9	184.5	193.9	200.1	206.5
75°	206.5	197.0	178.3	162.6	153.2	150.1	159.5	165.8	168.9
77.5°	153.2	147.0	134.5	122.0	115.7	118.9	128.2	131.4	134.5
80°	106.4	103.2	93.9	87.6	87.6	90.7	97.0	100.1	103.2
82.5°	65.6	65.6	59.4	56.3	59.4	65.6	68.9	72.0	72.0
85°	31.3	34.4	31.3	31.3	34.4	40.6	40.6	43.8	43.8
87.5°	9.4	9.4	12.5	12.5	15.6	15.6	15.6	15.6	18.8
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)