

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: P580934

Luminaire Tested: **HC450D010-HM44560930-41RWWC**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580934
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC450D010-HM44560930-41RWWC
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4088.7 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

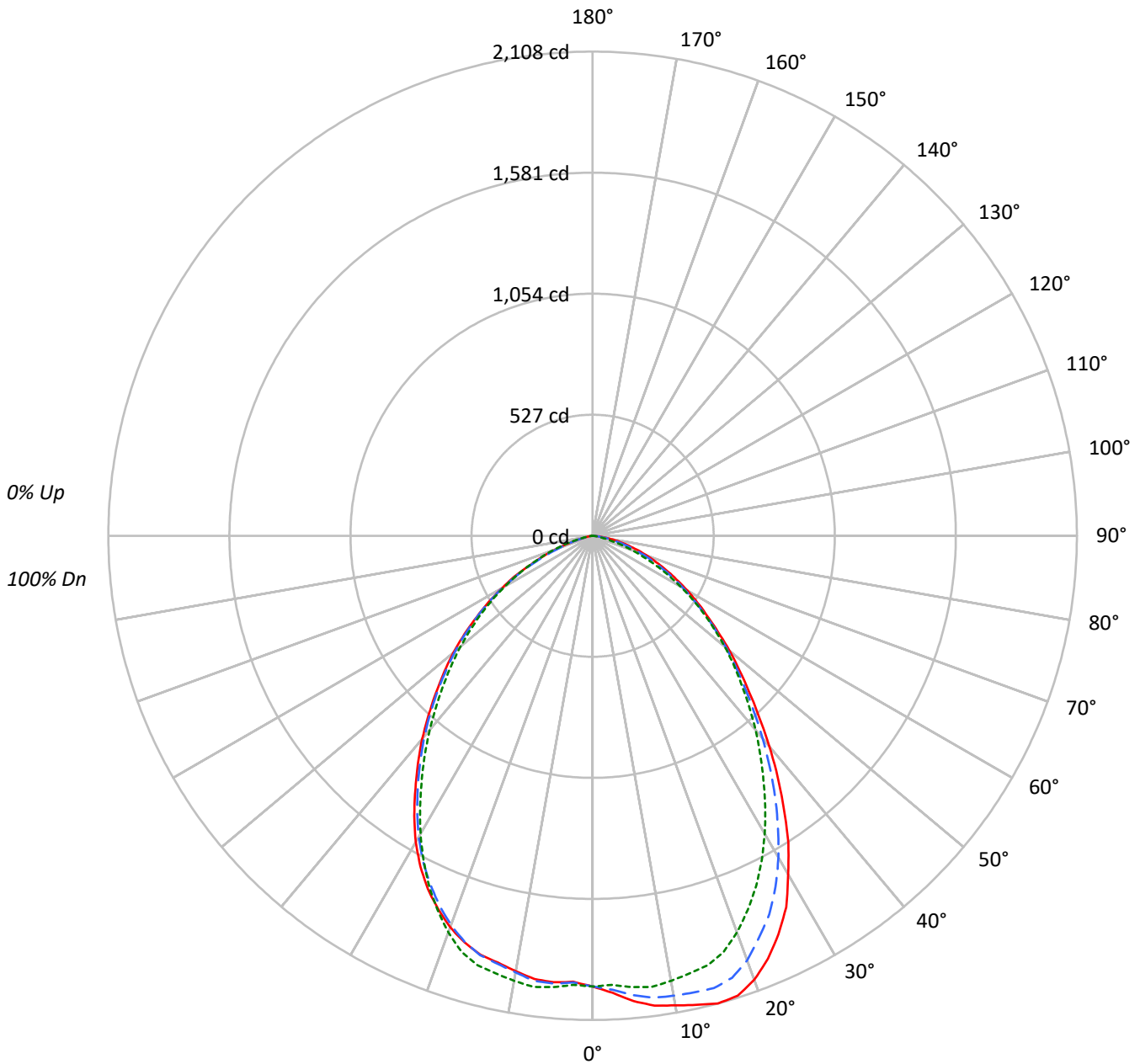
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76																			
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46																			
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41																			
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37																			
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	242004	242004	242004
5°	251806	244253	241628
10°	260028	246414	241103
15°	269172	247170	241079
20°	270084	241193	238056
25°	260530	229133	230943
30°	242440	213370	219409
35°	218397	195223	202421
40°	192543	177601	185716
45°	168349	160029	167896
50°	149081	143976	151633
55°	131135	127136	132297
60°	117080	108569	111850
65°	102939	88229	86683
70°	89871	65023	59289
75°	74536	39222	31597
80°	56541	15130	9447
85°	26323	3821	3821



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.2	4.6
10°-20°	552.3	13.5
20°-30°	799.8	19.6
30°-40°	843.8	20.6
40°-50°	730.3	17.9
50°-60°	541.0	13.2
60°-70°	311.9	7.6
70°-80°	108.9	2.7
80°-90°	11.5	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°	1541.3	37.7
0°-40°	2385.2	58.3
0°-60°	3656.5	89.4
0°-90°	4088.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4088.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1962	1962	1962	1962	1962	
5°	2034	2007	1973	1957	1952	195
15°	2108	2039	1936	1890	1888	593
25°	1914	1819	1684	1673	1697	876
35°	1450	1384	1296	1326	1344	906
45°	965	939	917	952	962	749
55°	610	597	591	612	615	550
65°	353	331	302	286	297	352
75°	156	133	82	66	66	168
85°	19	11	3	3	3	29
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°	1962.0	1962.0	1962.0	1962.0	1962.0	1962.0	1962.0	1962.0	1962.0
2.5°	1991.3	1986.0	1978.0	1967.4	1956.8	1948.9	1946.2	1943.6	1943.6
5°	2033.7	2023.0	2007.2	1986.0	1972.7	1964.7	1956.8	1951.5	1951.5
7.5°	2062.9	2052.3	2028.4	1999.2	1980.6	1964.7	1954.2	1946.2	1946.2
10°	2076.1	2062.9	2033.7	1996.6	1967.4	1946.2	1930.3	1925.0	1925.0
12.5°	2092.0	2076.1	2036.3	1988.6	1951.5	1925.0	1909.0	1903.7	1903.7
15°	2107.9	2089.4	2039.0	1983.3	1935.6	1903.7	1890.5	1887.9	1887.9
17.5°	2100.0	2076.1	2017.7	1951.5	1898.5	1866.6	1853.3	1853.3	1856.0
20°	2057.6	2033.7	1967.4	1893.2	1837.5	1813.6	1803.0	1808.3	1813.6
22.5°	1993.9	1964.7	1893.2	1821.6	1763.2	1742.0	1742.0	1749.9	1757.9
25°	1914.3	1887.9	1818.9	1739.3	1683.6	1667.8	1673.1	1686.3	1696.9
27.5°	1824.2	1795.0	1723.5	1649.2	1593.5	1585.6	1598.8	1617.4	1622.8
30°	1702.2	1678.4	1617.4	1545.8	1498.1	1495.4	1514.0	1527.2	1540.5
32.5°	1585.6	1559.1	1500.8	1431.8	1397.4	1400.0	1421.2	1437.1	1445.1
35°	1450.4	1426.5	1384.1	1328.4	1296.5	1301.8	1325.7	1341.7	1344.3
37.5°	1323.1	1307.1	1264.7	1222.3	1198.4	1209.1	1230.3	1248.8	1248.8
40°	1195.8	1182.6	1150.7	1116.3	1103.0	1116.3	1137.4	1153.4	1153.4
42.5°	1073.9	1065.9	1039.4	1015.6	1007.6	1026.1	1044.7	1058.0	1055.3
45°	965.1	957.2	938.6	920.0	917.4	936.0	951.9	959.9	962.5
47.5°	867.0	861.7	845.9	832.6	832.6	851.2	864.3	872.3	875.0
50°	776.9	771.6	758.3	747.7	750.3	768.9	779.5	787.5	790.2
52.5°	686.8	684.1	673.5	660.2	668.2	681.5	694.6	700.0	702.6
55°	609.8	609.8	596.6	585.9	591.2	604.5	612.5	615.2	615.2
57.5°	540.9	538.2	522.4	511.8	514.4	527.6	532.9	535.6	535.6
60°	474.6	471.9	456.1	440.1	440.1	448.1	450.8	453.4	453.4
62.5°	411.0	408.4	389.8	376.5	371.2	368.5	368.5	373.8	384.5
65°	352.7	350.0	331.4	310.2	302.3	294.4	286.4	291.7	297.0
67.5°	299.7	294.4	275.8	257.2	238.7	225.4	212.1	220.1	230.7
70°	249.2	244.0	222.7	201.5	180.3	159.1	148.4	159.1	164.4
72.5°	201.5	196.2	175.0	153.8	127.3	106.1	103.4	106.1	108.7
75°	156.4	153.8	132.6	108.7	82.3	66.3	66.3	66.3	66.3
77.5°	116.7	111.4	90.1	69.0	47.7	37.1	34.4	34.4	34.4
80°	79.6	74.3	55.7	39.7	21.3	15.9	15.9	13.3	13.3
82.5°	45.1	42.4	29.1	15.9	8.0	5.3	5.3	5.3	5.3
85°	18.6	15.9	10.6	5.3	2.7	2.7	2.7	2.7	2.7
87.5°	2.7	2.7	2.7	0.0	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)