

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: P580953

Luminaire Tested: **HC450D010-HM44560935-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580953
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC450D010-HM44560935-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4233.8 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

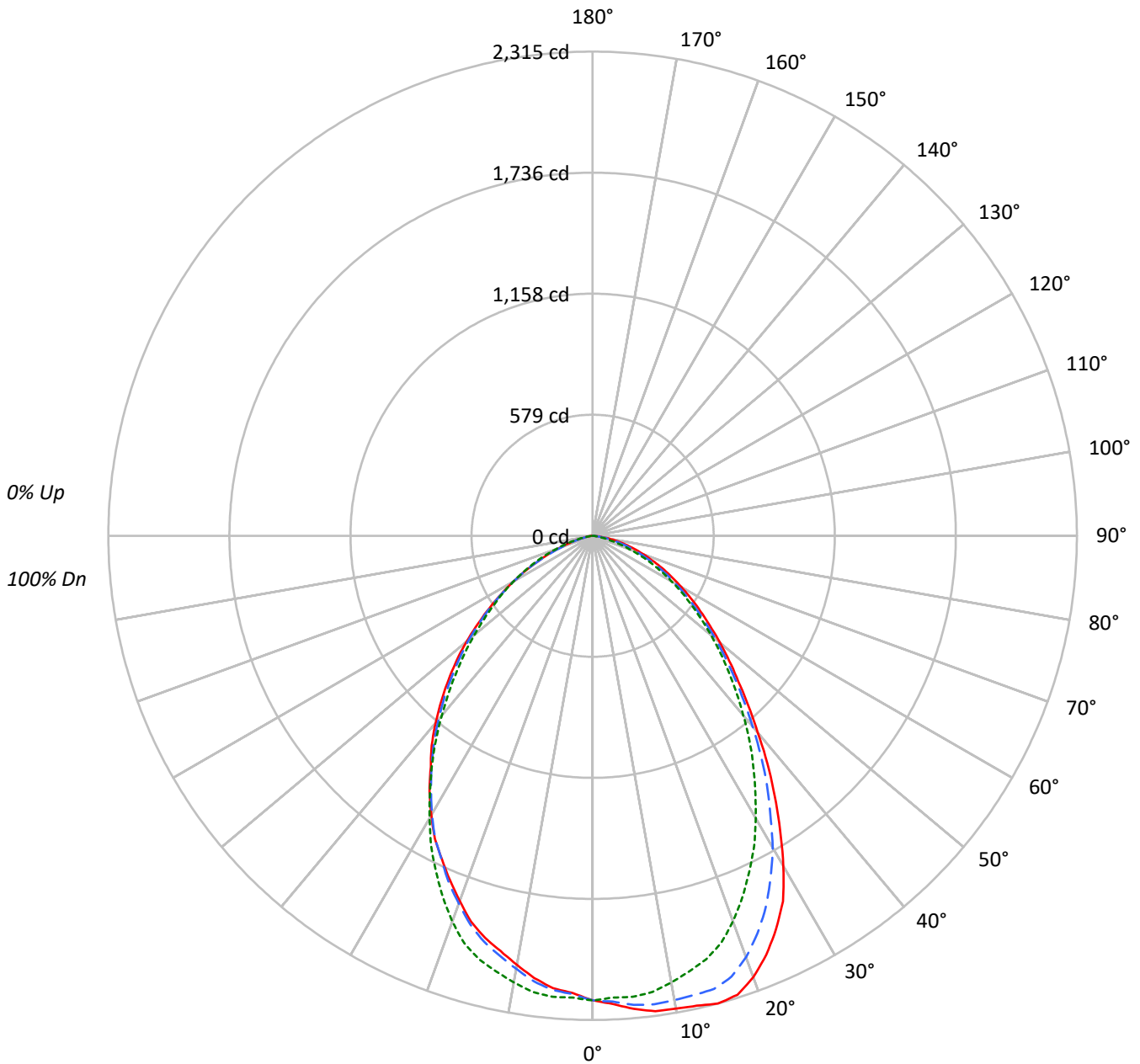
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				100															
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88															
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77															
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67				67															
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59				59															
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52															
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47															
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	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	41	37	47	41	37	46	41	37	35				35															
10	58	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°	273988	273988	273988
5°	281188	274007	268881
10°	287545	271639	260943
15°	295644	267793	254053
20°	294827	257522	243766
25°	282415	241096	232086
30°	259787	222058	219694
35°	228531	201533	203174
40°	197712	180387	187938
45°	171838	160290	169902
50°	152496	141367	150904
55°	135286	124017	129350
60°	120484	107533	107533
65°	107113	89397	83735
70°	92540	67656	59722
75°	77586	44750	36839
80°	58814	21523	19605
85°	31135	7784	7784



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.4	5.0
10°-20°	596.4	14.1
20°-30°	841.1	19.9
30°-40°	868.9	20.5
40°-50°	736.5	17.4
50°-60°	535.9	12.7
60°-70°	313.1	7.4
70°-80°	116.4	2.7
80°-90°	15.2	0.4
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°	1647.8	38.9
0°-40°	2516.7	59.4
0°-60°	3789.1	89.5
0°-90°	4233.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4233.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2221	2221	2221	2221	2221	
5°	2271	2252	2213	2180	2172	218
15°	2315	2243	2097	2009	1990	651
25°	2075	1959	1772	1708	1705	949
35°	1518	1452	1338	1341	1349	948
45°	985	958	919	952	974	767
55°	629	599	577	596	602	566
65°	367	337	306	287	287	364
75°	163	135	94	74	77	175
85°	22	14	6	6	6	31
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°	2221.3	2221.3	2221.3	2221.3	2221.3	2221.3	2221.3	2221.3	2221.3
2.5°	2240.7	2235.1	2229.6	2221.3	2210.2	2202.0	2193.7	2188.2	2188.2
5°	2271.0	2262.7	2251.6	2232.4	2213.0	2196.5	2179.9	2171.6	2171.6
7.5°	2293.0	2282.0	2259.9	2232.4	2199.3	2174.4	2149.6	2138.5	2133.0
10°	2295.8	2284.7	2254.4	2213.0	2168.8	2130.3	2102.6	2086.1	2083.4
12.5°	2301.3	2287.5	2248.9	2191.0	2133.0	2086.1	2055.7	2039.2	2033.7
15°	2315.2	2295.8	2243.4	2168.8	2097.1	2042.0	2008.9	1995.0	1989.5
17.5°	2301.3	2273.8	2210.2	2122.0	2042.0	1981.2	1948.1	1934.4	1934.4
20°	2246.1	2218.5	2144.0	2047.5	1961.9	1904.0	1870.8	1862.6	1857.1
22.5°	2168.8	2138.5	2058.5	1956.4	1870.8	1818.5	1796.3	1785.4	1782.6
25°	2075.1	2044.7	1959.2	1854.3	1771.5	1727.4	1708.1	1708.1	1705.3
27.5°	1970.2	1931.6	1843.3	1752.3	1672.2	1639.1	1630.8	1630.8	1633.6
30°	1824.0	1796.3	1721.8	1633.6	1559.1	1537.0	1537.0	1542.5	1542.5
32.5°	1666.7	1647.3	1581.1	1503.9	1446.0	1432.1	1437.7	1448.7	1451.5
35°	1517.7	1495.6	1451.5	1382.4	1338.4	1332.8	1341.0	1349.3	1349.3
37.5°	1371.5	1349.3	1319.0	1263.8	1230.7	1233.4	1244.5	1255.6	1263.8
40°	1227.9	1211.4	1189.3	1145.2	1120.3	1131.4	1145.2	1156.2	1167.2
42.5°	1101.0	1084.4	1067.9	1034.8	1018.2	1032.1	1048.6	1059.6	1070.7
45°	985.1	974.0	957.6	929.9	918.9	932.6	952.0	963.0	974.0
47.5°	885.8	880.3	858.1	833.3	827.8	841.7	858.1	872.0	880.3
50°	794.7	786.4	767.2	742.2	736.7	758.8	769.9	778.1	786.4
52.5°	706.4	698.1	676.0	654.0	654.0	670.5	678.8	681.6	689.9
55°	629.1	620.9	598.8	582.3	576.7	590.5	596.0	596.0	601.5
57.5°	557.4	549.1	527.0	507.8	505.0	513.2	513.2	513.2	516.0
60°	488.4	480.1	458.1	441.5	435.9	438.7	435.9	433.3	435.9
62.5°	425.0	416.7	394.6	375.3	369.7	369.7	361.4	358.7	361.4
65°	367.0	353.2	336.6	317.4	306.3	298.0	286.9	286.9	286.9
67.5°	309.1	298.0	278.7	259.4	245.5	231.8	215.2	220.7	223.5
70°	256.6	248.3	226.3	207.0	187.6	171.0	157.3	162.8	165.6
72.5°	209.7	198.7	179.3	157.3	140.7	118.7	110.4	115.9	115.9
75°	162.8	151.8	135.2	113.1	93.9	74.5	74.5	77.3	77.3
77.5°	121.4	110.4	93.9	74.5	57.9	44.2	46.9	46.9	46.9
80°	82.8	74.5	60.7	44.2	30.3	24.8	24.8	24.8	27.6
82.5°	46.9	41.4	33.1	22.0	13.8	13.8	13.8	13.8	13.8
85°	22.0	16.6	13.8	8.3	5.5	5.5	5.5	5.5	5.5
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)