

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: P580937

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580937  
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-HM44560930-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4025.1 lumens  
Efficiency: N/A  
Efficacy: 83.9 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

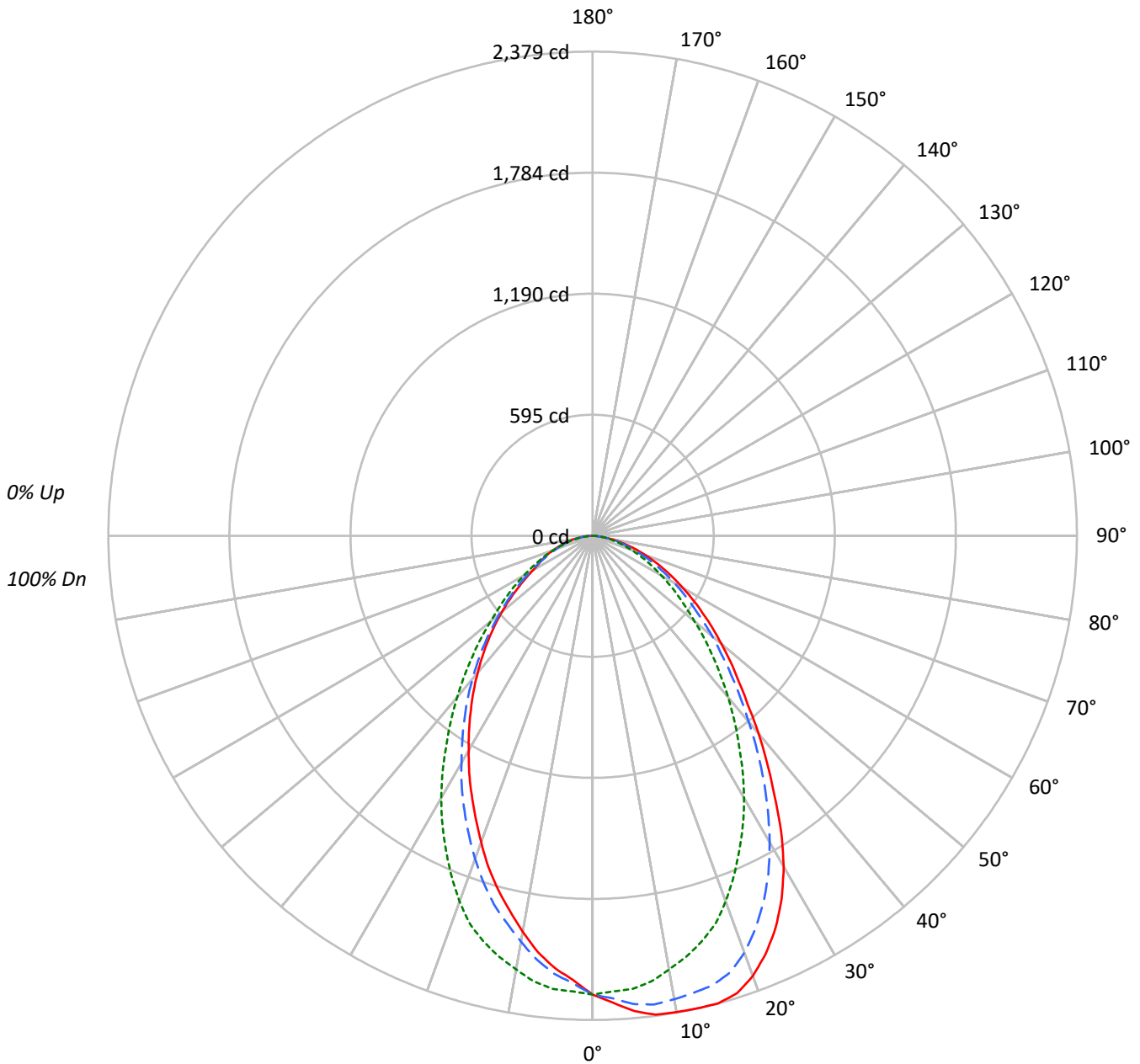
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P580937

CATALOG NUMBER: HC450D010-HM44560930-41WWW

### Luminous Intensity Polar Plot





TEST NUMBER: P580937

CATALOG NUMBER: HC450D010-HM44560930-41WWW

**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°	278021	278021	278021
5°	290239	276780	263977
10°	297590	271000	247441
15°	303740	263783	229586
20°	302125	250959	210229
25°	289437	232045	191271
30°	267393	211875	173348
35°	234388	188462	156917
40°	204088	166523	141324
45°	177612	145254	126275
50°	158253	125190	111432
55°	141436	110061	96362
60°	126257	96160	83061
65°	112220	84348	78919
70°	98490	72669	73606
75°	83400	61954	68245
80°	64000	52777	62153
85°	37645	41183	52505



TEST NUMBER: P580937

CATALOG NUMBER: HC450D010-HM44560930-41WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.3	5.2
10°-20°	582.8	14.5
20°-30°	796.2	19.8
30°-40°	799.5	19.9
40°-50°	661.4	16.4
50°-60°	479.3	11.9
60°-70°	303.6	7.5
70°-80°	153.5	3.8
80°-90°	37.6	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°	1590.2	39.5
0°-40°	2389.7	59.4
0°-60°	3530.4	87.7
0°-90°	4025.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4025.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2254	2254	2254	2254	2254	
5°	2344	2310	2235	2161	2132	225
15°	2379	2286	2066	1875	1798	669
25°	2127	1986	1705	1490	1405	972
35°	1557	1464	1252	1098	1042	976
45°	1018	960	833	750	724	792
55°	658	599	512	467	448	591
65°	384	342	289	260	270	383
75°	175	151	130	135	143	187
85°	27	27	29	34	37	37
90°	0	0	0	0	0	



TEST NUMBER: P580937

CATALOG NUMBER: HC450D010-HM44560930-41WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2254.0	2254.0	2254.0	2254.0	2254.0	2254.0	2254.0	2254.0	2254.0
2.5°	2296.4	2288.4	2275.1	2259.3	2240.7	2219.4	2200.9	2190.3	2185.0
5°	2344.1	2333.4	2309.6	2275.1	2235.4	2195.6	2161.1	2139.9	2132.0
7.5°	2373.3	2357.4	2322.9	2269.9	2208.9	2150.6	2100.1	2071.0	2063.0
10°	2376.0	2357.4	2312.3	2240.7	2163.7	2086.9	2025.9	1983.4	1975.6
12.5°	2378.6	2354.7	2299.0	2214.1	2118.7	2023.3	1949.0	1898.6	1885.3
15°	2378.6	2354.7	2285.7	2185.0	2065.7	1957.0	1874.7	1816.4	1797.9
17.5°	2357.4	2330.8	2248.6	2132.0	2002.0	1880.0	1784.6	1723.6	1705.0
20°	2301.7	2272.4	2179.7	2052.4	1911.9	1784.6	1689.2	1625.5	1601.6
22.5°	2222.1	2187.7	2089.6	1951.6	1811.1	1681.2	1588.3	1522.1	1500.9
25°	2126.7	2092.2	1986.1	1850.9	1705.0	1583.0	1490.2	1429.2	1405.4
27.5°	2010.0	1972.9	1869.4	1734.2	1599.0	1477.0	1392.2	1336.5	1312.6
30°	1877.4	1837.6	1739.5	1609.6	1487.6	1370.9	1288.8	1243.6	1217.1
32.5°	1723.6	1689.2	1601.6	1484.9	1370.9	1259.5	1190.6	1150.8	1129.6
35°	1556.6	1538.0	1463.8	1362.9	1251.6	1158.8	1097.8	1060.7	1042.1
37.5°	1408.1	1389.5	1325.9	1240.9	1142.9	1058.1	1007.6	975.8	959.9
40°	1267.5	1251.6	1190.6	1119.1	1034.2	959.9	917.5	893.6	877.7
42.5°	1129.6	1121.6	1071.2	1005.0	930.8	867.1	832.7	814.1	800.8
45°	1018.2	1007.6	959.9	896.2	832.7	779.5	750.4	737.2	723.9
47.5°	920.1	906.9	856.5	800.8	742.5	694.8	668.2	655.0	649.7
50°	824.7	811.4	766.4	710.7	652.4	617.8	596.7	583.4	580.7
52.5°	739.8	726.5	676.2	623.1	578.1	548.9	530.4	517.1	511.8
55°	657.7	641.7	599.3	548.9	511.8	485.3	466.7	453.4	448.1
57.5°	583.4	567.4	530.4	482.7	448.1	424.3	408.4	395.1	389.8
60°	511.8	498.5	464.1	419.0	389.8	368.6	352.7	342.1	336.7
62.5°	445.5	434.8	400.4	360.7	336.7	318.2	305.0	294.4	299.7
65°	384.5	373.8	342.1	307.6	289.0	270.4	259.8	259.8	270.4
67.5°	326.1	315.6	289.0	259.8	244.0	230.7	222.7	230.7	238.7
70°	273.1	262.5	238.7	214.8	201.5	191.0	191.0	198.9	204.1
72.5°	222.7	212.1	193.6	175.0	164.4	156.4	164.4	169.7	175.0
75°	175.0	167.0	151.1	137.9	130.0	127.3	135.3	140.6	143.2
77.5°	130.0	124.6	114.0	103.4	98.1	100.7	108.7	111.4	114.0
80°	90.1	87.5	79.6	74.3	74.3	76.9	82.3	84.9	87.5
82.5°	55.7	55.7	50.4	47.7	50.4	55.7	58.3	61.0	61.0
85°	26.6	29.1	26.6	26.6	29.1	34.4	34.4	37.1	37.1
87.5°	8.0	8.0	10.6	10.6	13.3	13.3	13.3	13.3	15.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)