

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: P581259

Luminaire Tested: **HC455D010-HM44560940-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581259  
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: HC455D010-HM44560940-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4403.5 lumens  
Efficiency: N/A  
Efficacy: 84.7 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

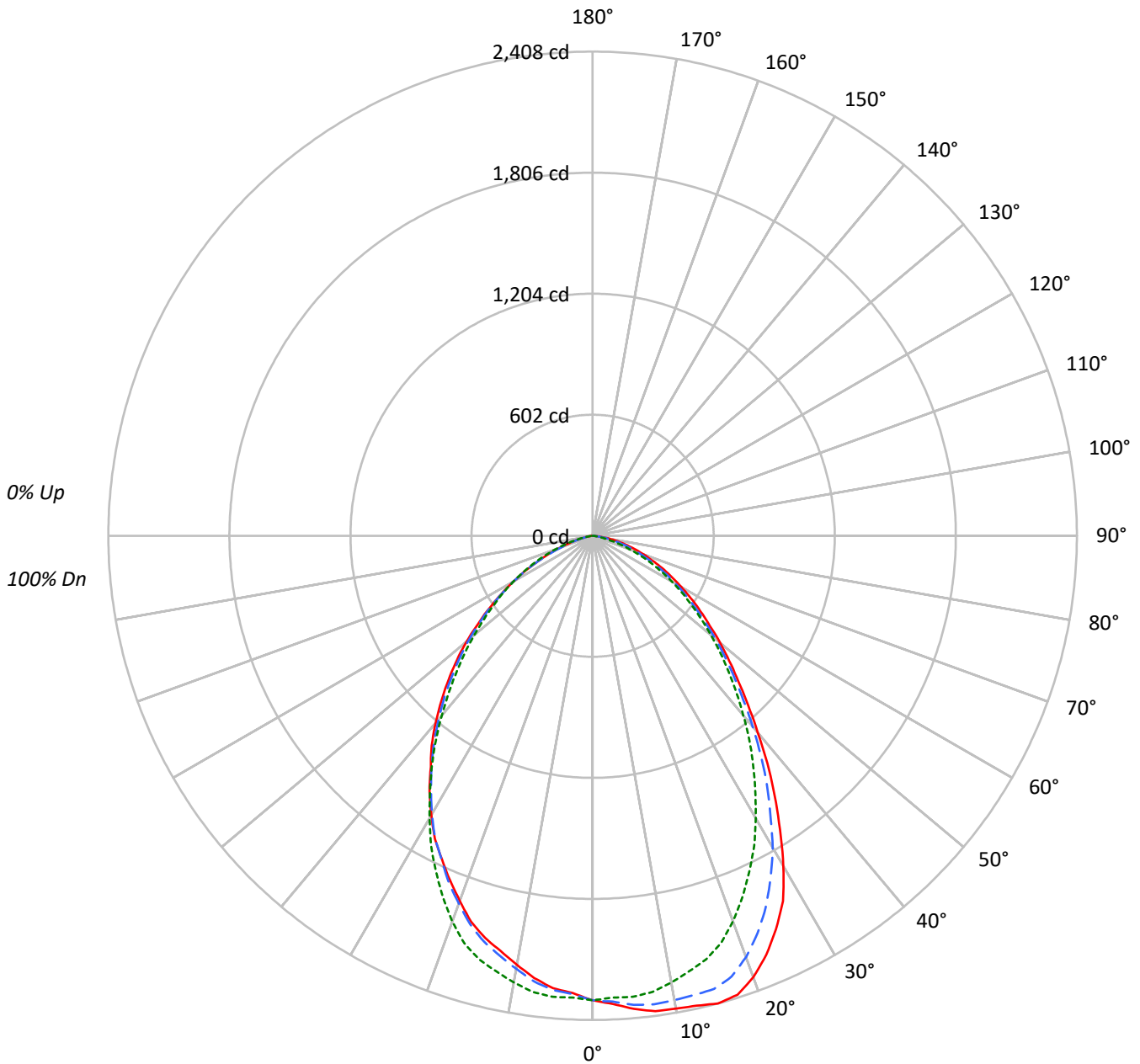
Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	284965	284965	284965
5°	292443	285001	279665
10°	299068	282523	271401
15°	307468	278532	264230
20°	306654	267839	253532
25°	293724	250758	241395
30°	270199	230960	228482
35°	237686	209603	211320
40°	205634	187616	195474
45°	178711	166709	176722
50°	158599	147027	156967
55°	140705	128985	134533
60°	125294	111874	111874
65°	111403	92987	87120
70°	96218	70397	62102
75°	80683	46466	38269
80°	61158	22446	20386
85°	32550	8067	8067



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	218.8	5.0
10°-20°	620.3	14.1
20°-30°	874.8	19.9
30°-40°	903.7	20.5
40°-50°	766.1	17.4
50°-60°	557.4	12.7
60°-70°	325.7	7.4
70°-80°	121.0	2.7
80°-90°	15.9	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°	1713.8	38.9
0°-40°	2617.5	59.4
0°-60°	3940.9	89.5
0°-90°	4403.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4403.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2310	2310	2310	2310	2310	
5°	2362	2342	2302	2267	2259	226
15°	2408	2333	2181	2089	2069	677
25°	2158	2038	1842	1776	1774	987
35°	1578	1510	1392	1395	1403	986
45°	1024	996	956	990	1013	797
55°	654	623	600	620	626	589
65°	382	350	319	298	298	379
75°	169	141	98	78	80	182
85°	23	14	6	6	6	32
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°	2310.3	2310.3	2310.3	2310.3	2310.3	2310.3	2310.3	2310.3	2310.3
2.5°	2330.4	2324.7	2319.0	2310.3	2298.8	2290.2	2281.6	2275.9	2275.9
5°	2361.9	2353.4	2341.9	2321.8	2301.8	2284.4	2267.2	2258.7	2258.7
7.5°	2384.9	2373.4	2350.5	2321.8	2287.4	2261.5	2235.7	2224.2	2218.5
10°	2387.8	2376.3	2344.7	2301.8	2255.7	2215.6	2186.9	2169.7	2166.9
12.5°	2393.5	2379.2	2339.0	2278.7	2218.5	2169.7	2138.1	2120.8	2115.1
15°	2407.8	2387.8	2333.2	2255.7	2181.2	2123.8	2089.4	2075.0	2069.2
17.5°	2393.5	2364.9	2298.8	2207.0	2123.8	2060.7	2026.2	2011.8	2011.8
20°	2336.2	2307.5	2230.0	2129.5	2040.5	1980.2	1945.8	1937.2	1931.5
22.5°	2255.7	2224.2	2141.0	2034.8	1945.8	1891.4	1868.3	1856.8	1854.0
25°	2158.2	2126.6	2037.7	1928.6	1842.5	1796.6	1776.5	1776.5	1773.7
27.5°	2049.2	2008.9	1917.1	1822.4	1739.1	1704.7	1696.2	1696.2	1699.0
30°	1897.1	1868.3	1790.9	1699.0	1621.6	1598.5	1598.5	1604.2	1604.2
32.5°	1733.4	1713.4	1644.5	1564.1	1503.9	1489.5	1495.2	1506.7	1509.6
35°	1578.5	1555.5	1509.6	1437.9	1392.0	1386.2	1394.8	1403.4	1403.4
37.5°	1426.4	1403.4	1371.8	1314.4	1280.0	1282.8	1294.3	1305.8	1314.4
40°	1277.1	1259.9	1236.9	1191.0	1165.2	1176.6	1191.0	1202.5	1214.0
42.5°	1145.1	1127.9	1110.7	1076.2	1059.0	1073.4	1090.6	1102.0	1113.5
45°	1024.5	1013.1	995.8	967.2	955.7	970.1	990.1	1001.6	1013.1
47.5°	921.3	915.5	892.6	866.7	861.0	875.4	892.6	906.9	915.5
50°	826.5	818.0	797.8	772.0	766.2	789.2	800.7	809.3	818.0
52.5°	734.7	726.1	703.1	680.2	680.2	697.4	706.1	708.9	717.5
55°	654.3	645.8	622.8	605.6	599.8	614.1	619.9	619.9	625.6
57.5°	579.7	571.2	548.2	528.1	525.2	533.8	533.8	533.8	536.6
60°	507.9	499.4	476.4	459.2	453.5	456.3	453.5	450.6	453.5
62.5°	442.0	433.4	410.4	390.3	384.5	384.5	376.0	373.0	376.0
65°	381.7	367.3	350.1	330.1	318.6	309.9	298.5	298.5	298.5
67.5°	321.4	309.9	289.9	269.8	255.4	241.1	223.9	229.6	232.4
70°	266.8	258.3	235.4	215.2	195.2	178.0	163.6	169.3	172.2
72.5°	218.1	206.7	186.5	163.6	146.4	123.4	114.8	120.5	120.5
75°	169.3	157.8	140.6	117.7	97.5	77.5	77.5	80.3	80.3
77.5°	126.2	114.8	97.5	77.5	60.3	45.9	48.8	48.8	48.8
80°	86.1	77.5	63.1	45.9	31.6	25.9	25.9	25.9	28.7
82.5°	48.8	43.1	34.4	23.0	14.4	14.4	14.4	14.4	14.4
85°	23.0	17.2	14.4	8.7	5.7	5.7	5.7	5.7	5.7
87.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)