

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: P580899

Luminaire Tested: **HC450D010-HM44560840-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580899  
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-HM44560840-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5498.7 lumens  
Efficiency: N/A  
Efficacy: 114.6 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

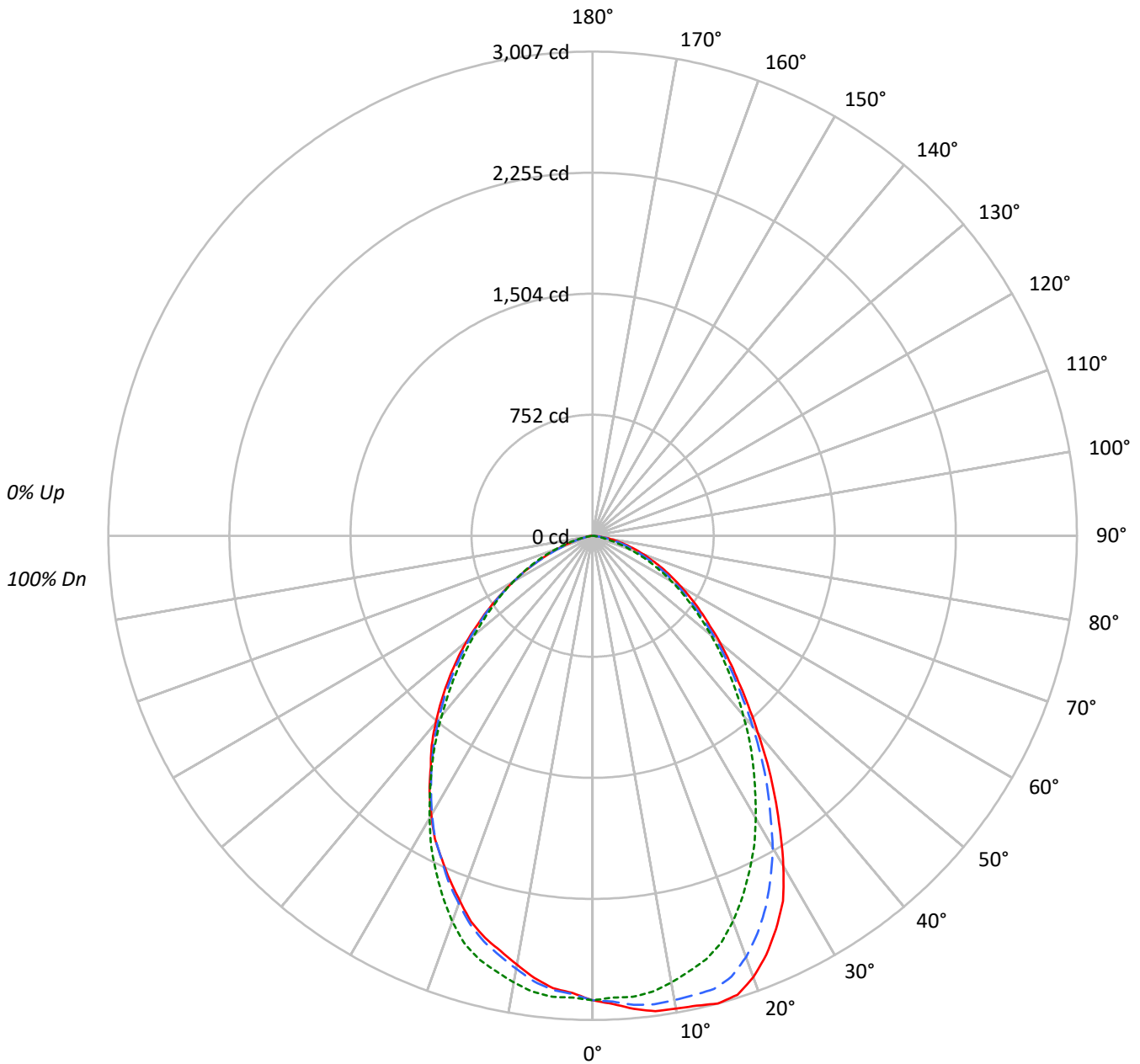
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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																			
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°	355852	355852	355852
5°	365198	355874	349213
10°	373453	352812	338885
15°	383959	347808	329969
20°	382917	334468	316590
25°	366781	313132	301427
30°	337396	288387	285325
35°	296803	261718	263887
40°	256773	234279	244085
45°	223175	208191	220680
50°	198071	183621	195998
55°	175715	161070	168016
60°	156476	139677	139677
65°	139130	116131	108776
70°	120201	87888	77537
75°	100747	58094	47800
80°	76359	27987	25500
85°	40617	10190	10190



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.2	5.0
10°-20°	774.6	14.1
20°-30°	1092.3	19.9
30°-40°	1128.4	20.5
40°-50°	956.6	17.4
50°-60°	696.0	12.7
60°-70°	406.7	7.4
70°-80°	151.1	2.7
80°-90°	19.8	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°	2140.1	38.9
0°-40°	3268.6	59.4
0°-60°	4921.2	89.5
0°-90°	5498.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5498.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2885	2885	2885	2885	2885	
5°	2950	2924	2874	2831	2820	283
15°	3007	2914	2724	2609	2584	845
25°	2695	2544	2301	2218	2215	1233
35°	1971	1885	1738	1742	1752	1231
45°	1279	1244	1194	1236	1265	996
55°	817	778	749	774	781	735
65°	477	437	398	373	373	473
75°	211	176	122	97	100	227
85°	29	18	7	7	7	40
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°	2885.0	2885.0	2885.0	2885.0	2885.0	2885.0	2885.0	2885.0	2885.0
2.5°	2910.1	2902.9	2895.7	2885.0	2870.6	2859.8	2849.1	2841.9	2841.9
5°	2949.5	2938.8	2924.4	2899.2	2874.2	2852.7	2831.2	2820.4	2820.4
7.5°	2978.2	2963.8	2935.1	2899.2	2856.3	2824.1	2791.7	2777.5	2770.3
10°	2981.7	2967.4	2927.9	2874.2	2816.9	2766.7	2730.9	2709.4	2705.7
12.5°	2988.9	2971.0	2920.8	2845.5	2770.3	2709.4	2670.0	2648.4	2641.3
15°	3006.8	2981.7	2913.6	2816.9	2723.7	2652.0	2609.0	2591.0	2584.0
17.5°	2988.9	2953.0	2870.6	2756.0	2652.0	2573.1	2530.2	2512.2	2512.2
20°	2917.2	2881.4	2784.7	2659.1	2548.1	2472.8	2429.8	2419.0	2411.9
22.5°	2816.9	2777.5	2673.5	2540.9	2429.8	2361.7	2333.0	2318.7	2315.2
25°	2695.0	2655.6	2544.4	2408.3	2300.8	2243.4	2218.3	2218.3	2214.8
27.5°	2558.8	2508.7	2394.0	2275.7	2171.8	2128.8	2118.0	2118.0	2121.6
30°	2368.9	2333.0	2236.3	2121.6	2024.8	1996.1	1996.1	2003.3	2003.3
32.5°	2164.6	2139.5	2053.5	1953.2	1877.9	1860.0	1867.2	1881.5	1885.1
35°	1971.1	1942.5	1885.1	1795.4	1738.1	1731.0	1741.8	1752.5	1752.5
37.5°	1781.2	1752.5	1713.1	1641.3	1598.4	1601.9	1616.3	1630.6	1641.3
40°	1594.7	1573.3	1544.6	1487.3	1455.0	1469.3	1487.3	1501.6	1515.9
42.5°	1429.9	1408.4	1387.0	1343.9	1322.4	1340.4	1361.8	1376.2	1390.5
45°	1279.4	1265.1	1243.6	1207.7	1193.5	1211.3	1236.4	1250.7	1265.1
47.5°	1150.4	1143.2	1114.5	1082.3	1075.1	1093.1	1114.5	1132.5	1143.2
50°	1032.2	1021.4	996.3	964.1	956.9	985.6	999.8	1010.6	1021.4
52.5°	917.5	906.7	878.1	849.4	849.4	870.9	881.6	885.2	895.9
55°	817.1	806.3	777.7	756.2	749.0	766.9	774.1	774.1	781.3
57.5°	724.0	713.1	684.5	659.4	655.8	666.6	666.6	666.6	670.2
60°	634.3	623.6	594.9	573.4	566.2	569.8	566.2	562.7	566.2
62.5°	552.0	541.1	512.4	487.4	480.2	480.2	469.5	465.9	469.5
65°	476.7	458.7	437.3	412.1	397.9	387.0	372.7	372.7	372.7
67.5°	401.4	387.0	362.0	336.9	318.9	301.0	279.5	286.7	290.3
70°	333.3	322.6	293.9	268.8	243.7	222.2	204.2	211.4	215.0
72.5°	272.3	258.0	232.9	204.2	182.8	154.1	143.4	150.6	150.6
75°	211.4	197.2	175.6	146.9	121.9	96.8	96.8	100.3	100.3
77.5°	157.6	143.4	121.9	96.8	75.3	57.3	60.9	60.9	60.9
80°	107.5	96.8	78.8	57.3	39.4	32.2	32.2	32.2	35.9
82.5°	60.9	53.8	43.0	28.7	17.9	17.9	17.9	17.9	17.9
85°	28.7	21.5	17.9	10.7	7.2	7.2	7.2	7.2	7.2
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)