

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: P580109

Luminaire Tested: **HC420D010-HM40525940-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580109  
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: HC420D010-HM40525940-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1907.3 lumens  
Efficiency: N/A  
Efficacy: 95.4 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

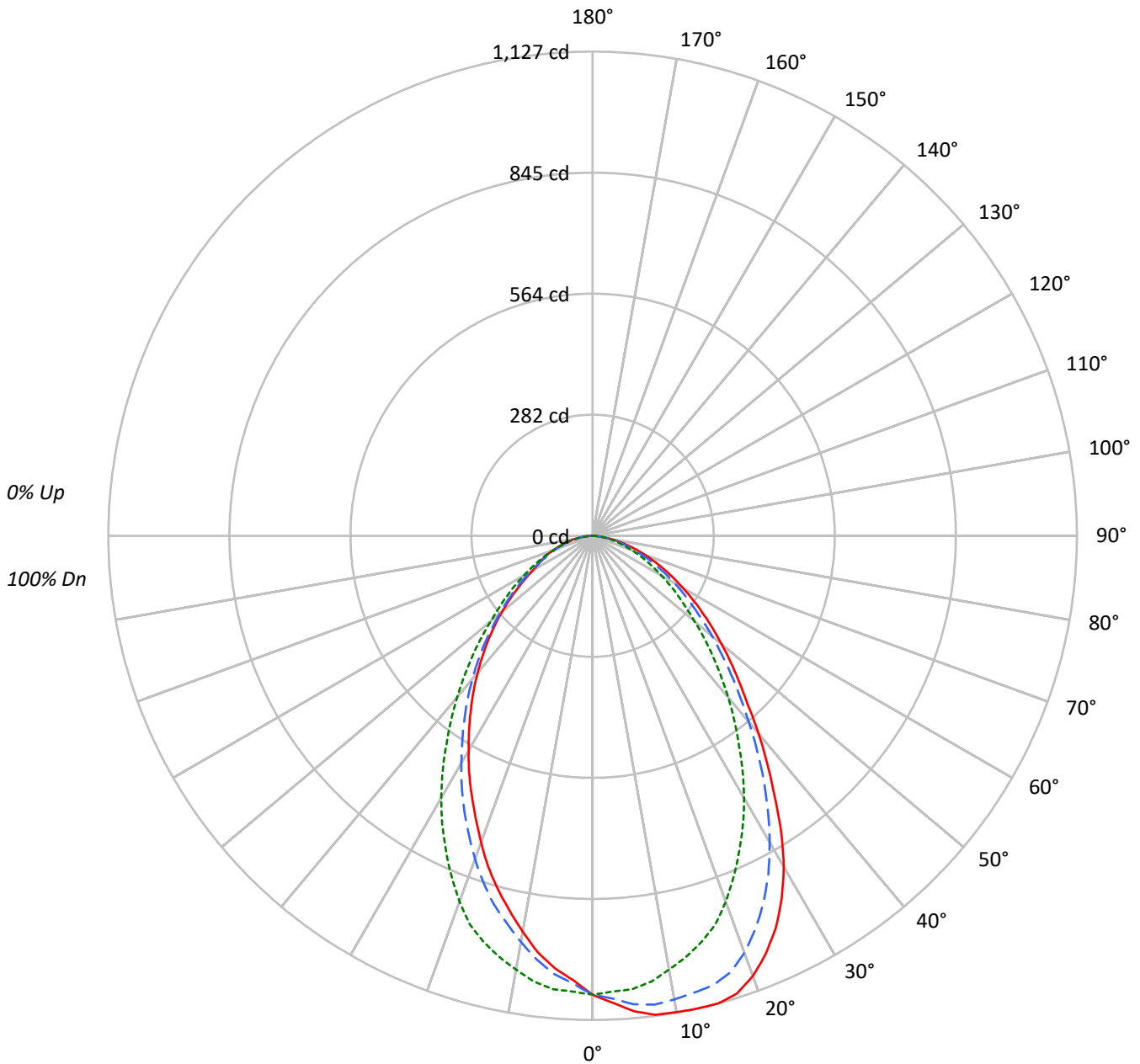
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	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	42	37	47	41	37	46	41	37	35																			
10	59	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°	131745	131745	131745
5°	137536	131159	125092
10°	141017	128417	117245
15°	143940	124990	108785
20°	143167	118910	99628
25°	137158	109953	90627
30°	126703	100397	82138
35°	111066	89307	74355
40°	96706	78898	66967
45°	84166	68833	59849
50°	74991	59314	52809
55°	67009	52149	45654
60°	59823	45564	39347
65°	53148	39985	37387
70°	46667	34441	34910
75°	39508	29357	32359
80°	30331	25003	29478
85°	17832	19672	24767



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.1	5.2
10°-20°	276.2	14.5
20°-30°	377.3	19.8
30°-40°	378.9	19.9
40°-50°	313.4	16.4
50°-60°	227.1	11.9
60°-70°	143.9	7.5
70°-80°	72.7	3.8
80°-90°	17.8	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°	753.5	39.5
0°-40°	1132.4	59.4
0°-60°	1672.9	87.7
0°-90°	1907.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1907.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1068	1068	1068	1068	1068	
5°	1111	1094	1059	1024	1010	106
15°	1127	1083	979	888	852	317
25°	1008	941	808	706	666	461
35°	738	694	593	520	494	462
45°	482	455	395	356	343	375
55°	312	284	242	221	212	280
65°	182	162	137	123	128	181
75°	83	72	62	64	68	89
85°	13	13	14	16	18	17
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°	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1
2.5°	1088.2	1084.4	1078.1	1070.6	1061.8	1051.7	1043.0	1037.9	1035.4
5°	1110.8	1105.7	1094.5	1078.1	1059.3	1040.4	1024.0	1014.1	1010.3
7.5°	1124.6	1117.1	1100.7	1075.5	1046.6	1019.0	995.1	981.4	977.6
10°	1125.9	1117.1	1095.7	1061.8	1025.3	988.8	960.0	939.9	936.1
12.5°	1127.2	1115.8	1089.4	1049.2	1004.0	958.8	923.6	899.7	893.4
15°	1127.2	1115.8	1083.1	1035.4	978.8	927.3	888.4	860.7	851.9
17.5°	1117.1	1104.4	1065.6	1010.3	948.7	890.9	845.7	816.8	807.9
20°	1090.7	1076.8	1032.9	972.5	905.9	845.7	800.4	770.2	759.0
22.5°	1052.9	1036.7	990.1	924.8	858.2	796.6	752.7	721.2	711.1
25°	1007.8	991.4	941.1	877.1	807.9	750.1	706.2	677.3	665.9
27.5°	952.5	934.8	885.8	821.7	757.7	699.9	659.6	633.3	622.0
30°	889.6	870.8	824.2	762.8	704.9	649.7	610.7	589.3	576.7
32.5°	816.8	800.4	759.0	703.7	649.7	596.9	564.2	545.3	535.3
35°	737.6	728.8	693.6	645.9	593.1	549.1	520.2	502.6	493.8
37.5°	667.2	658.4	628.2	588.1	541.6	501.4	477.5	462.4	454.9
40°	600.6	593.1	564.2	530.3	490.0	454.9	434.7	423.5	415.9
42.5°	535.3	531.5	507.7	476.2	441.0	410.9	394.6	385.7	379.4
45°	482.5	477.5	454.9	424.7	394.6	369.4	355.6	349.3	343.1
47.5°	436.0	429.8	405.8	379.4	351.8	329.2	316.7	310.4	307.9
50°	390.8	384.5	363.1	336.8	309.1	292.7	282.7	276.4	275.2
52.5°	350.5	344.3	320.4	295.2	273.9	260.1	251.3	245.0	242.5
55°	311.6	304.1	284.0	260.1	242.5	230.0	221.1	214.8	212.3
57.5°	276.4	268.9	251.3	228.7	212.3	201.1	193.5	187.2	184.7
60°	242.5	236.3	219.9	198.5	184.7	174.7	167.1	162.1	159.5
62.5°	211.0	206.1	189.7	170.9	159.5	150.8	144.5	139.5	142.0
65°	182.1	177.2	162.1	145.8	137.0	128.1	123.2	123.2	128.1
67.5°	154.5	149.6	137.0	123.2	115.6	109.3	105.5	109.3	113.1
70°	129.4	124.4	113.1	101.7	95.5	90.5	90.5	94.3	96.8
72.5°	105.5	100.5	91.8	82.9	77.9	74.1	77.9	80.4	82.9
75°	82.9	79.1	71.6	65.4	61.6	60.3	64.1	66.6	67.9
77.5°	61.6	59.1	54.0	49.0	46.5	47.7	51.5	52.8	54.0
80°	42.7	41.5	37.7	35.2	35.2	36.5	39.0	40.3	41.5
82.5°	26.4	26.4	23.9	22.6	23.9	26.4	27.6	28.9	28.9
85°	12.6	13.9	12.6	12.6	13.9	16.3	16.3	17.5	17.5
87.5°	3.8	3.8	5.0	5.0	6.3	6.3	6.3	6.3	7.6
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)