

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: P592673

Luminaire Tested: **HC420D010-HM40525850-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592673  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC420D010-HM40525850-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2108.2 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

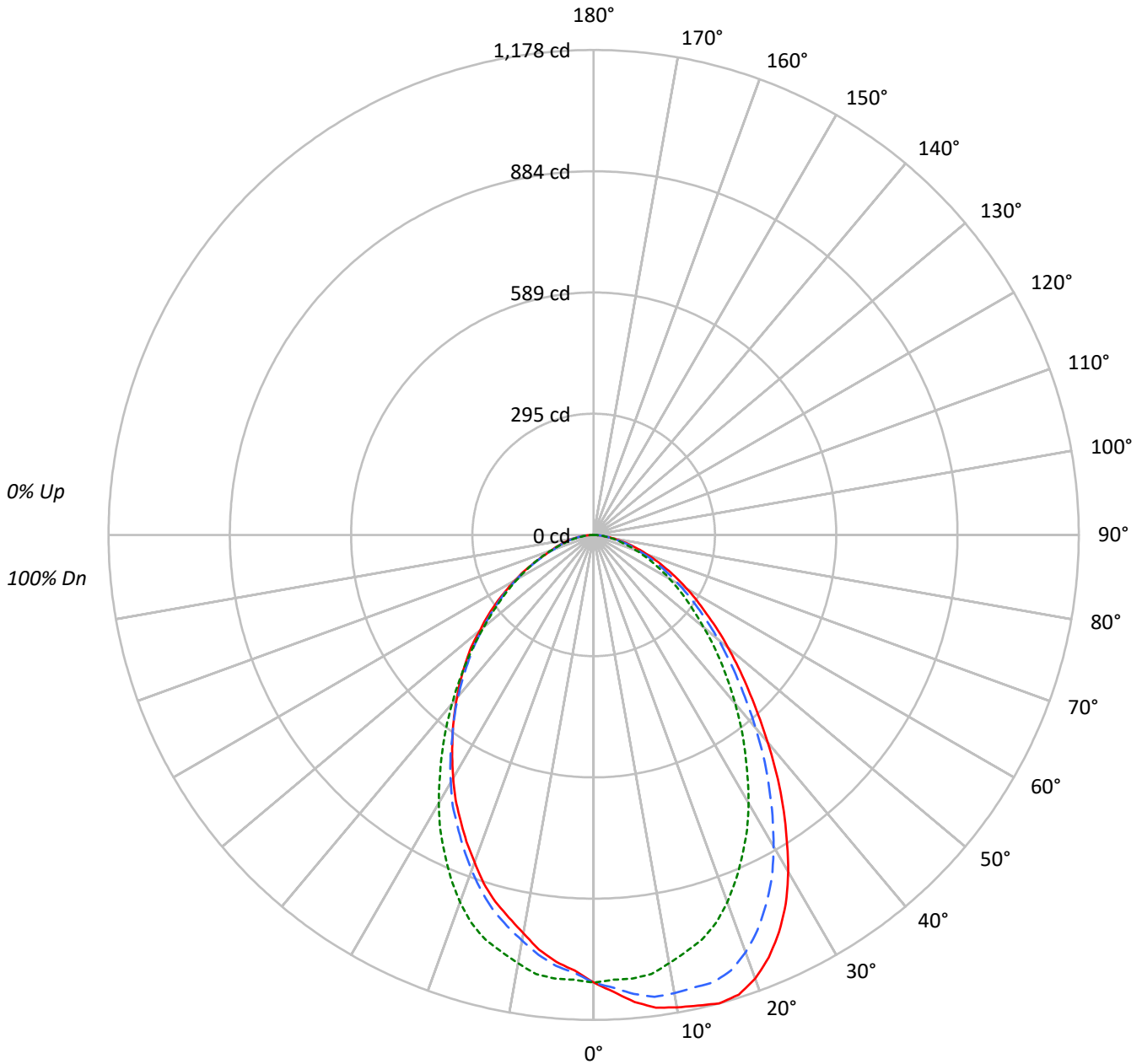
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66																			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58																			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51																			
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46																			
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

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

	0°	90°	180°
0°	134089	134089	134089
5°	140990	133908	128893
10°	145939	132312	123044
15°	150414	129906	117788
20°	150570	124554	111008
25°	144916	116417	104073
30°	134565	107134	97192
35°	120627	96445	89925
40°	105820	86063	83149
45°	92504	76194	76665
50°	81688	66663	69081
55°	72019	59116	62105
60°	64362	52323	54395
65°	57000	46026	46026
70°	49804	39274	39274
75°	42605	33217	37220
80°	33740	29762	33740
85°	21795	25616	31701



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.0	4.9
10°-20°	290.1	13.8
20°-30°	406.4	19.3
30°-40°	418.6	19.9
40°-50°	356.4	16.9
50°-60°	264.1	12.5
60°-70°	165.7	7.9
70°-80°	82.3	3.9
80°-90°	21.6	1.0
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°	799.4	37.9
0°-40°	1218.0	57.8
0°-60°	1838.5	87.2
0°-90°	2108.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2108.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1087	1087	1087	1087	1087	
5°	1139	1119	1082	1051	1041	109
15°	1178	1125	1017	943	922	331
25°	1065	991	855	782	765	487
35°	801	741	640	599	597	499
45°	530	494	437	428	440	411
55°	335	308	275	280	289	303
65°	195	176	158	155	158	195
75°	89	80	70	75	78	95
85°	15	15	18	21	22	20
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°	1087.1	1087.1	1087.1	1087.1	1087.1	1087.1	1087.1	1087.1	1087.1
2.5°	1110.9	1106.6	1101.0	1091.3	1081.5	1073.1	1064.8	1060.6	1059.1
5°	1138.7	1130.4	1119.2	1101.0	1081.5	1064.8	1050.8	1043.9	1041.0
7.5°	1158.2	1149.9	1131.7	1103.9	1075.9	1050.8	1028.5	1018.8	1015.9
10°	1165.2	1155.5	1130.4	1092.6	1056.4	1025.6	1000.5	988.0	982.4
12.5°	1170.9	1158.2	1126.1	1081.5	1036.9	999.2	972.7	955.9	951.8
15°	1177.9	1163.9	1124.7	1070.4	1017.3	972.7	943.4	928.0	922.4
17.5°	1170.9	1155.5	1109.4	1048.0	988.0	939.2	907.0	893.2	887.5
20°	1147.1	1130.4	1078.8	1013.1	948.9	898.7	866.6	852.7	845.7
22.5°	1110.9	1092.6	1039.6	969.9	904.3	855.4	824.7	810.8	806.6
25°	1064.8	1046.6	990.8	919.7	855.4	807.9	781.5	768.9	764.7
27.5°	1010.4	992.2	937.8	868.0	806.6	762.0	741.0	728.5	725.7
30°	944.8	926.7	873.6	809.4	752.2	710.3	693.6	683.8	682.4
32.5°	872.2	856.8	807.9	749.3	695.0	660.1	647.5	640.5	639.1
35°	801.1	784.3	741.0	688.0	640.5	609.9	598.6	597.2	597.2
37.5°	728.5	711.7	676.8	628.0	587.5	559.6	555.4	556.8	556.8
40°	657.2	642.0	611.2	570.7	534.5	513.5	512.1	514.9	516.4
42.5°	590.2	577.7	549.9	514.9	484.3	467.5	468.9	474.5	478.6
45°	530.3	519.1	494.0	463.3	436.8	424.3	428.4	435.4	439.5
47.5°	475.9	466.1	442.4	414.4	392.2	383.8	389.3	397.7	403.3
50°	425.7	417.3	394.9	365.7	347.4	341.9	348.9	357.3	360.0
52.5°	380.9	372.5	348.9	323.8	309.8	307.1	313.9	320.9	325.2
55°	334.9	327.9	308.4	286.1	274.9	273.6	280.4	286.1	288.8
57.5°	297.2	290.3	272.1	252.6	242.8	241.4	248.4	252.6	253.9
60°	260.9	253.9	237.2	219.1	212.1	212.1	216.3	219.1	220.5
62.5°	227.5	220.5	205.1	189.8	184.2	184.2	184.2	185.6	189.8
65°	195.3	189.8	175.8	161.8	157.7	154.8	154.8	154.8	157.7
67.5°	166.1	160.5	149.3	136.7	132.6	128.3	127.0	129.7	129.7
70°	138.1	134.0	122.8	113.0	108.9	104.6	103.2	108.9	108.9
72.5°	113.0	108.9	101.9	92.1	87.9	86.5	89.4	92.1	93.5
75°	89.4	85.1	79.5	74.0	69.7	71.1	75.4	76.7	78.1
77.5°	67.0	65.6	60.0	55.9	55.9	57.2	60.0	62.7	64.2
80°	47.5	46.0	43.2	40.5	41.9	44.6	46.0	48.9	47.5
82.5°	29.2	29.2	27.9	27.9	29.2	32.1	33.5	34.9	36.2
85°	15.4	15.4	15.4	16.7	18.1	19.5	20.9	22.4	22.4
87.5°	4.1	5.6	5.6	7.0	8.4	8.4	9.7	9.7	9.7
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)