

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: P580019

Luminaire Tested: **HC420D010-HM40525835-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580019  
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-HM40525835-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2061.1 lumens  
Efficiency: N/A  
Efficacy: 103.1 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

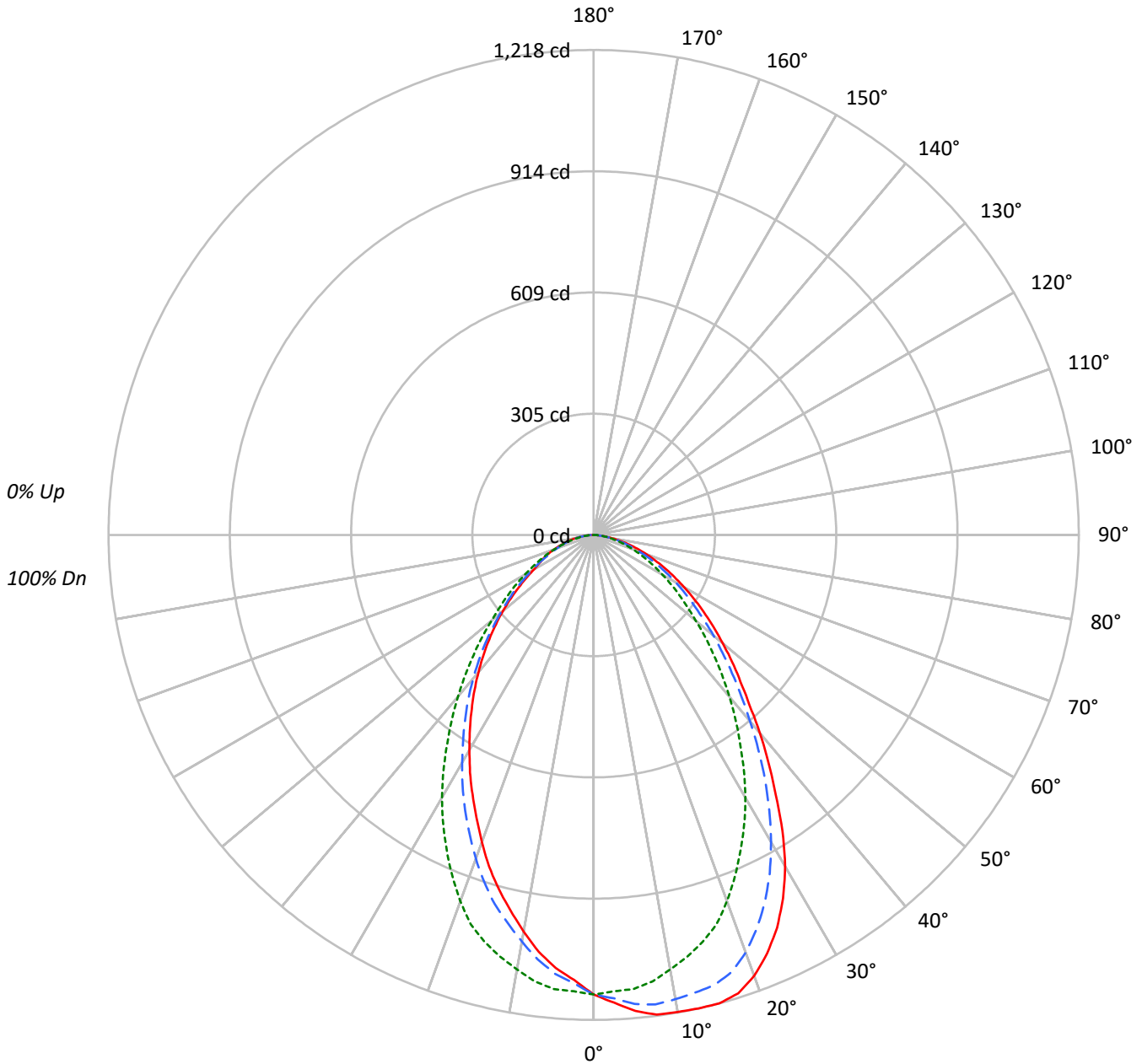
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	100	100
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76	76	76	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66	66	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58	58	58	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47	47	47	47
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32	32	32	32

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

	0°	90°	180°
0°	142353	142353	142353
5°	148617	141733	135171
10°	152377	138775	126689
15°	155535	135078	117558
20°	154718	128505	107648
25°	148209	118826	97935
30°	136915	108487	88775
35°	120025	96505	80348
40°	104516	85274	72361
45°	90951	74363	64664
50°	81036	64092	57069
55°	72428	56364	49353
60°	64658	49240	42530
65°	57467	43195	40394
70°	50417	37218	37723
75°	42701	31692	34933
80°	32746	26992	31822
85°	19106	21087	26889



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.2	5.2
10°-20°	298.4	14.5
20°-30°	407.7	19.8
30°-40°	409.4	19.9
40°-50°	338.7	16.4
50°-60°	245.4	11.9
60°-70°	155.4	7.5
70°-80°	78.6	3.8
80°-90°	19.2	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°	814.3	39.5
0°-40°	1223.7	59.4
0°-60°	1807.8	87.7
0°-90°	2061.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2061.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1154	1154	1154	1154	1154	
5°	1200	1183	1145	1107	1092	115
15°	1218	1170	1058	960	921	343
25°	1089	1017	873	763	720	498
35°	797	750	641	562	534	500
45°	521	492	426	384	371	406
55°	337	307	262	239	230	303
65°	197	175	148	133	138	196
75°	90	77	66	69	73	96
85°	14	14	15	18	19	19
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°	1154.1	1154.1	1154.1	1154.1	1154.1	1154.1	1154.1	1154.1	1154.1
2.5°	1175.9	1171.8	1165.0	1156.9	1147.3	1136.6	1127.0	1121.5	1118.9
5°	1200.3	1194.9	1182.7	1165.0	1144.7	1124.3	1106.6	1095.7	1091.7
7.5°	1215.2	1207.1	1189.4	1162.4	1131.1	1101.2	1075.4	1060.5	1056.4
10°	1216.6	1207.1	1184.0	1147.3	1108.0	1068.7	1037.3	1015.7	1011.5
12.5°	1218.0	1205.7	1177.3	1133.8	1084.9	1036.1	998.0	972.2	965.4
15°	1218.0	1205.7	1170.5	1118.9	1057.8	1002.1	960.0	930.1	920.6
17.5°	1207.1	1193.6	1151.5	1091.7	1025.2	962.7	913.8	882.6	873.1
20°	1178.7	1163.6	1116.1	1051.0	979.0	913.8	865.0	832.4	820.1
22.5°	1137.8	1120.3	1070.0	999.4	927.5	860.8	813.3	779.4	768.5
25°	1089.0	1071.3	1017.0	947.8	873.1	810.6	763.1	731.9	719.6
27.5°	1029.2	1010.3	957.3	888.0	818.7	756.3	712.9	684.3	672.1
30°	961.3	941.0	890.8	824.2	761.7	702.0	659.9	636.8	623.3
32.5°	882.6	865.0	820.1	760.3	702.0	645.0	609.6	589.3	578.4
35°	797.1	787.5	749.6	697.9	640.9	593.3	562.1	543.1	533.6
37.5°	721.0	711.5	678.9	635.4	585.2	541.7	516.0	499.6	491.5
40°	649.1	640.9	609.6	573.0	529.6	491.5	469.8	457.5	449.4
42.5°	578.4	574.4	548.6	514.7	476.6	444.0	426.3	416.8	410.1
45°	521.4	516.0	491.5	458.9	426.3	399.2	384.2	377.5	370.7
47.5°	471.2	464.4	438.6	410.1	380.2	355.8	342.2	335.4	332.6
50°	422.3	415.4	392.4	363.9	334.0	316.3	305.6	298.7	297.4
52.5°	378.9	372.1	346.3	319.1	296.0	281.1	271.6	264.7	262.1
55°	336.8	328.6	306.8	281.1	262.1	248.4	239.0	232.2	229.5
57.5°	298.7	290.5	271.6	247.2	229.5	217.2	209.1	202.3	199.6
60°	262.1	255.3	237.7	214.5	199.6	188.8	180.5	175.1	172.4
62.5°	228.1	222.6	205.1	184.7	172.4	163.0	156.1	150.7	153.5
65°	196.9	191.4	175.1	157.5	148.0	138.4	133.1	133.1	138.4
67.5°	167.0	161.6	148.0	133.1	124.9	118.1	114.0	118.1	122.2
70°	139.8	134.4	122.2	110.0	103.2	97.7	97.7	101.9	104.6
72.5°	114.0	108.6	99.1	89.6	84.2	80.1	84.2	86.9	89.6
75°	89.6	85.6	77.4	70.7	66.5	65.1	69.3	71.9	73.3
77.5°	66.5	63.8	58.4	53.0	50.2	51.6	55.6	57.0	58.4
80°	46.1	44.8	40.7	38.0	38.0	39.3	42.1	43.5	44.8
82.5°	28.6	28.6	25.8	24.4	25.8	28.6	29.8	31.2	31.2
85°	13.5	14.9	13.5	13.5	14.9	17.7	17.7	19.0	19.0
87.5°	4.1	4.1	5.4	5.4	6.8	6.8	6.8	6.8	8.1
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)