

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: P580017

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580017  
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: HC420D010-HM40525835-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2082.9 lumens  
Efficiency: N/A  
Efficacy: 104.1 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

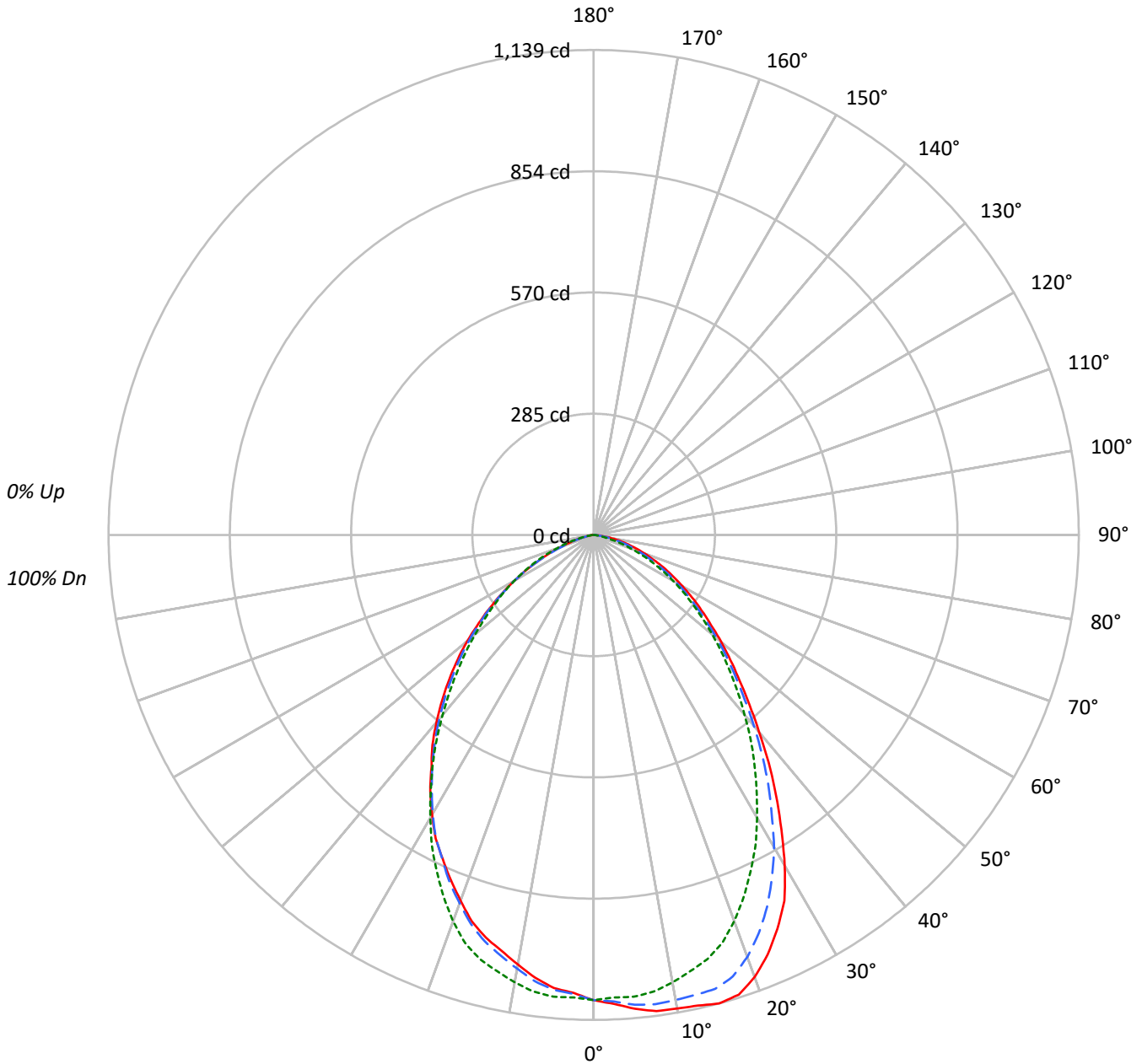
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67			67
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	134780	134780	134780
5°	138328	134799	132273
10°	141468	133628	128355
15°	145447	131745	124977
20°	145044	126694	119921
25°	138928	118608	114172
30°	127800	109242	108088
35°	112421	99140	99953
40°	97270	88736	92456
45°	84532	78846	83590
50°	75010	69561	74243
55°	66557	61030	63632
60°	59280	52915	52915
65°	52681	43983	41211
70°	45549	33287	29356
75°	38173	21970	18110
80°	28910	10584	9589
85°	15426	3963	3963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.5	5.0
10°-20°	293.4	14.1
20°-30°	413.8	19.9
30°-40°	427.4	20.5
40°-50°	362.3	17.4
50°-60°	263.6	12.7
60°-70°	154.0	7.4
70°-80°	57.3	2.7
80°-90°	7.5	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°	810.6	38.9
0°-40°	1238.1	59.4
0°-60°	1864.0	89.5
0°-90°	2082.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2082.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1093	1093	1093	1093	1093	
5°	1117	1108	1089	1072	1068	107
15°	1139	1104	1032	988	979	320
25°	1021	964	872	840	839	467
35°	747	714	658	660	664	466
45°	485	471	452	468	479	377
55°	310	294	284	293	296	278
65°	180	166	151	141	141	179
75°	80	66	46	37	38	86
85°	11	7	3	3	3	15
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°	1092.7	1092.7	1092.7	1092.7	1092.7	1092.7	1092.7	1092.7	1092.7
2.5°	1102.3	1099.5	1096.9	1092.7	1087.4	1083.2	1079.2	1076.5	1076.5
5°	1117.2	1113.2	1107.7	1098.3	1088.7	1080.6	1072.4	1068.3	1068.3
7.5°	1128.1	1122.7	1111.8	1098.3	1081.9	1069.7	1057.4	1052.0	1049.3
10°	1129.5	1123.9	1109.0	1088.7	1066.9	1048.0	1034.4	1026.2	1024.8
12.5°	1132.1	1125.3	1106.4	1077.8	1049.3	1026.2	1011.3	1003.2	1000.4
15°	1139.0	1129.5	1103.6	1066.9	1031.7	1004.5	988.3	981.5	978.7
17.5°	1132.1	1118.6	1087.4	1043.9	1004.5	974.7	958.4	951.6	951.6
20°	1105.0	1091.4	1054.8	1007.3	965.2	936.6	920.4	916.3	913.6
22.5°	1066.9	1052.0	1012.7	962.4	920.4	894.5	883.8	878.3	876.9
25°	1020.8	1005.9	963.8	912.2	871.5	849.8	840.3	840.3	838.9
27.5°	969.2	950.2	906.8	862.0	822.6	806.3	802.2	802.2	803.6
30°	897.3	883.8	847.1	803.6	767.0	756.1	756.1	758.9	758.9
32.5°	819.9	810.4	777.8	739.8	711.4	704.5	707.2	712.6	714.0
35°	746.6	735.8	714.0	680.1	658.4	655.6	659.8	663.8	663.8
37.5°	674.7	663.8	648.9	621.7	605.4	606.8	612.3	617.7	621.7
40°	604.1	596.0	585.1	563.4	551.1	556.5	563.4	568.8	574.2
42.5°	541.6	533.5	525.3	509.0	500.9	507.7	515.8	521.3	526.7
45°	484.6	479.2	471.1	457.4	452.0	458.8	468.3	473.7	479.2
47.5°	435.7	433.0	422.2	409.9	407.2	414.1	422.2	429.0	433.0
50°	390.9	386.9	377.4	365.2	362.5	373.3	378.7	382.8	386.9
52.5°	347.5	343.4	332.6	321.7	321.7	329.9	333.9	335.3	339.4
55°	309.5	305.4	294.5	286.4	283.8	290.5	293.2	293.2	295.9
57.5°	274.2	270.1	259.2	249.8	248.4	252.5	252.5	252.5	253.8
60°	240.3	236.2	225.4	217.2	214.5	215.9	214.5	213.1	214.5
62.5°	209.1	205.0	194.1	184.7	181.9	181.9	177.8	176.5	177.8
65°	180.5	173.8	165.6	156.1	150.7	146.6	141.2	141.2	141.2
67.5°	152.1	146.6	137.1	127.5	120.8	114.0	105.9	108.6	110.0
70°	126.3	122.2	111.3	101.9	92.3	84.2	77.4	80.1	81.4
72.5°	103.1	97.7	88.2	77.4	69.3	58.4	54.3	57.0	57.0
75°	80.1	74.7	66.5	55.6	46.1	36.7	36.7	38.0	38.0
77.5°	59.8	54.3	46.1	36.7	28.6	21.7	23.1	23.1	23.1
80°	40.7	36.7	29.8	21.7	14.9	12.3	12.3	12.3	13.5
82.5°	23.1	20.4	16.3	10.9	6.8	6.8	6.8	6.8	6.8
85°	10.9	8.1	6.8	4.1	2.8	2.8	2.8	2.8	2.8
87.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)