

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: P580035

Luminaire Tested: **HC420D010-HM40525840-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580035  
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-HM40525840-41RWWH  
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: 2140.4 lumens  
Efficiency: N/A  
Efficacy: 107.0 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

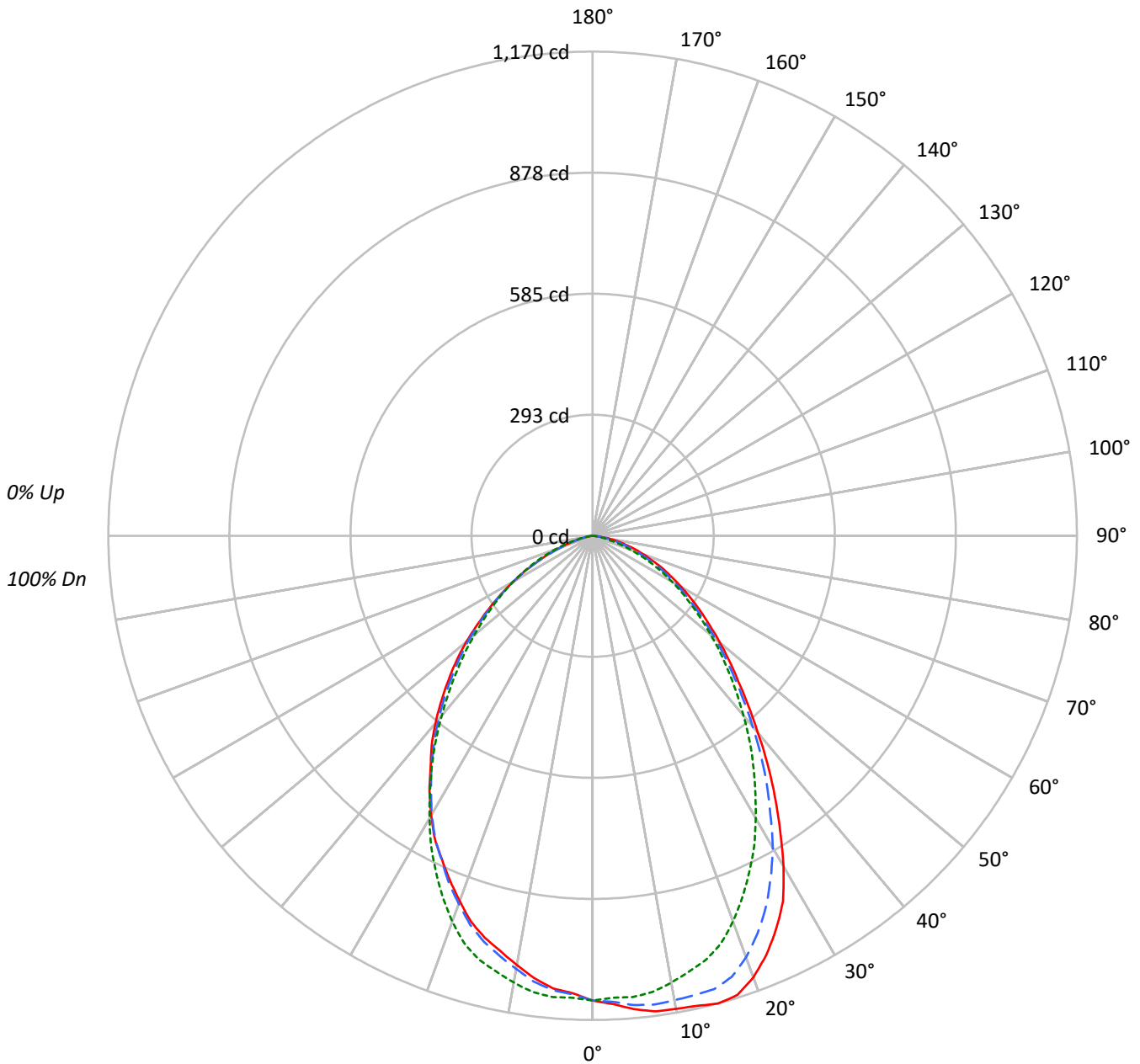
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	138505	138505	138505
5°	142142	138526	135926
10°	145363	137322	131912
15°	149456	135384	128437
20°	149048	130185	123228
25°	142766	121888	117329
30°	131332	112247	111051
35°	115523	101865	102709
40°	99959	91200	95000
45°	86870	81026	85893
50°	77102	71460	76296
55°	68406	62708	65396
60°	60908	54395	54395
65°	54169	45180	42349
70°	46775	34225	30185
75°	39269	22637	18634
80°	29762	10939	9944
85°	15709	3963	3963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.3	5.0
10°-20°	301.5	14.1
20°-30°	425.2	19.9
30°-40°	439.2	20.5
40°-50°	372.3	17.4
50°-60°	270.9	12.7
60°-70°	158.3	7.4
70°-80°	58.8	2.7
80°-90°	7.7	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°	833.0	38.9
0°-40°	1272.3	59.4
0°-60°	1915.5	89.5
0°-90°	2140.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2140.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1123	1123	1123	1123	1123	
5°	1148	1138	1119	1102	1098	110
15°	1170	1134	1060	1016	1006	329
25°	1049	990	896	864	862	480
35°	767	734	676	678	682	479
45°	498	484	464	481	492	388
55°	318	303	292	301	304	286
65°	186	170	155	145	145	184
75°	82	68	48	38	39	88
85°	11	7	3	3	3	16
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°	1122.9	1122.9	1122.9	1122.9	1122.9	1122.9	1122.9	1122.9	1122.9
2.5°	1132.7	1129.9	1127.2	1122.9	1117.4	1113.2	1109.0	1106.2	1106.2
5°	1148.0	1143.9	1138.3	1128.5	1118.8	1110.4	1102.0	1097.8	1097.8
7.5°	1159.2	1153.7	1142.5	1128.5	1111.8	1099.3	1086.7	1081.0	1078.3
10°	1160.6	1155.0	1139.7	1118.8	1096.4	1076.9	1062.9	1054.6	1053.2
12.5°	1163.4	1156.4	1136.9	1107.5	1078.3	1054.6	1039.3	1030.9	1028.1
15°	1170.4	1160.6	1134.2	1096.4	1060.2	1032.3	1015.6	1008.6	1005.8
17.5°	1163.4	1149.4	1117.4	1072.7	1032.3	1001.6	984.8	977.8	977.8
20°	1135.5	1121.5	1083.9	1035.1	991.8	962.6	945.8	941.6	938.8
22.5°	1096.4	1081.0	1040.7	989.1	945.8	919.3	908.1	902.6	901.2
25°	1049.0	1033.7	990.4	937.4	895.6	873.2	863.5	863.5	862.1
27.5°	996.1	976.4	931.8	885.8	845.3	828.6	824.5	824.5	825.8
30°	922.1	908.1	870.5	825.8	788.1	777.0	777.0	779.7	779.7
32.5°	842.6	832.8	799.3	760.2	731.0	724.0	726.7	732.4	733.7
35°	767.2	756.1	733.7	698.9	676.5	673.7	678.0	682.1	682.1
37.5°	693.2	682.1	666.8	638.9	622.1	623.5	629.1	634.7	638.9
40°	620.8	612.4	601.3	578.9	566.4	571.9	578.9	584.5	590.0
42.5°	556.6	548.3	539.9	523.1	514.8	521.8	530.0	535.6	541.3
45°	498.0	492.4	484.0	470.2	464.5	471.5	481.3	486.8	492.4
47.5°	447.8	445.0	433.8	421.3	418.5	425.4	433.8	440.8	445.0
50°	401.8	397.6	387.8	375.3	372.4	383.6	389.2	393.4	397.6
52.5°	357.1	352.9	341.8	330.6	330.6	338.9	343.2	344.6	348.7
55°	318.1	313.8	302.7	294.3	291.6	298.6	301.3	301.3	304.1
57.5°	281.8	277.6	266.4	256.7	255.3	259.5	259.5	259.5	260.8
60°	246.9	242.7	231.6	223.2	220.5	221.8	220.5	219.0	220.5
62.5°	214.8	210.6	199.5	189.7	187.0	187.0	182.7	181.3	182.7
65°	185.6	178.6	170.2	160.5	154.8	150.6	145.1	145.1	145.1
67.5°	156.2	150.6	140.9	131.1	124.1	117.2	108.9	111.6	113.0
70°	129.7	125.6	114.4	104.6	94.9	86.5	79.5	82.4	83.7
72.5°	106.0	100.5	90.7	79.5	71.1	60.0	55.7	58.6	58.6
75°	82.4	76.7	68.4	57.2	47.5	37.6	37.6	39.1	39.1
77.5°	61.4	55.7	47.5	37.6	29.2	22.4	23.7	23.7	23.7
80°	41.9	37.6	30.7	22.4	15.4	12.5	12.5	12.5	14.0
82.5°	23.7	20.9	16.7	11.1	7.0	7.0	7.0	7.0	7.0
85°	11.1	8.4	7.0	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)