

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: P580089

Luminaire Tested: **HC420D010-HM40525935-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580089  
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-HM40525935-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1860.1 lumens  
Efficiency: N/A  
Efficacy: 93.0 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

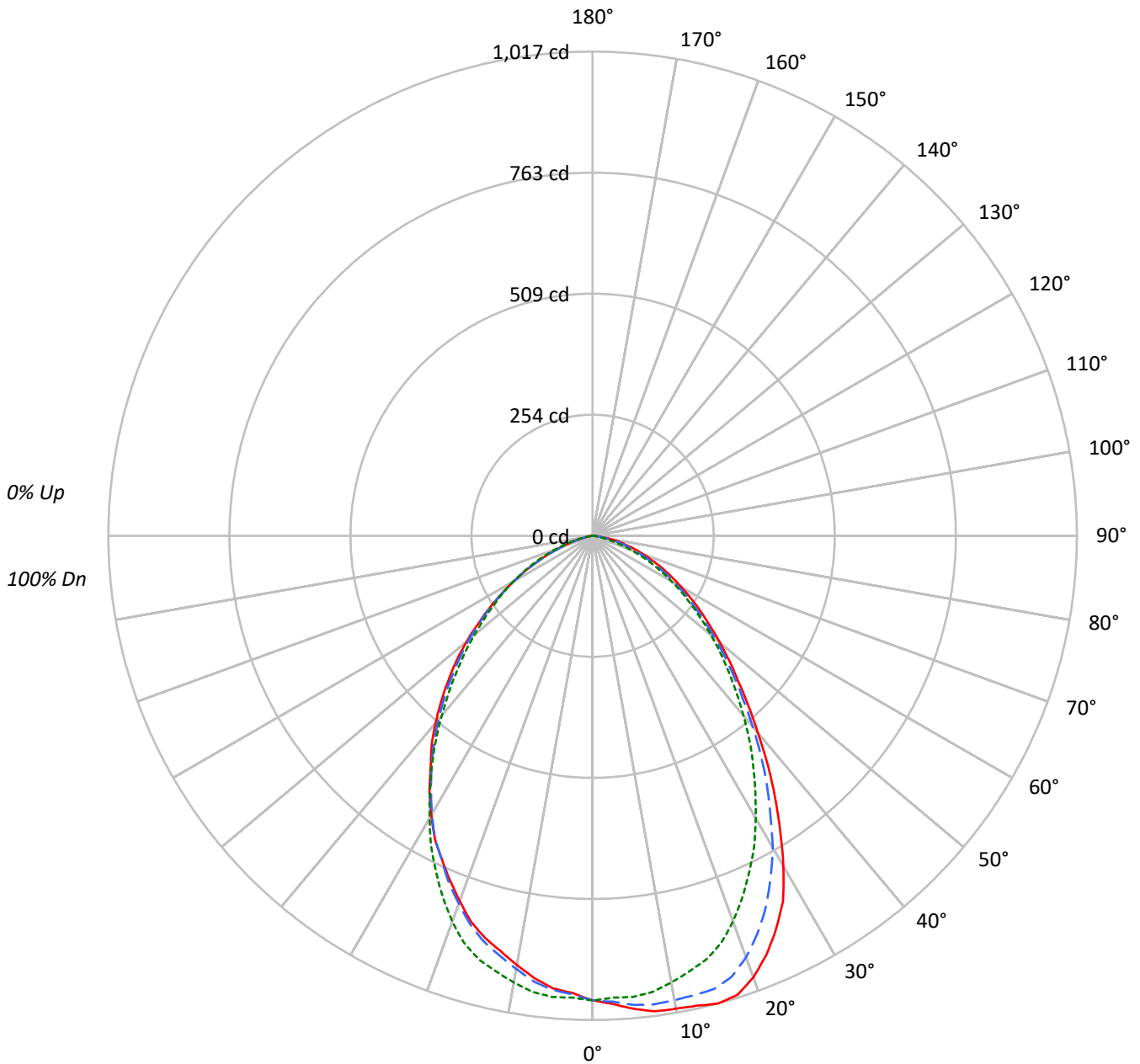
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	120373	120373	120373
5°	123544	120387	118134
10°	126338	119349	114640
15°	129893	117660	111620
20°	129542	113148	107096
25°	124066	105938	101964
30°	114127	97563	96509
35°	100405	88539	89262
40°	86852	79252	82569
45°	75496	70420	74642
50°	66989	62115	66299
55°	59439	54493	56837
60°	52940	47241	47241
65°	47077	39255	36804
70°	40680	29753	26218
75°	34122	19635	16203
80°	25856	9447	8666
85°	13728	3397	3397



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.4	5.0
10°-20°	262.0	14.1
20°-30°	369.5	19.9
30°-40°	381.7	20.5
40°-50°	323.6	17.4
50°-60°	235.4	12.7
60°-70°	137.6	7.4
70°-80°	51.1	2.7
80°-90°	6.7	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°	724.0	38.9
0°-40°	1105.7	59.4
0°-60°	1664.7	89.5
0°-90°	1860.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1860.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	976	976	976	976	976	
5°	998	989	972	958	954	96
15°	1017	986	921	883	874	286
25°	912	861	778	750	749	417
35°	667	638	588	589	593	416
45°	433	421	404	418	428	337
55°	276	263	253	262	264	249
65°	161	148	134	126	126	160
75°	72	59	41	33	34	77
85°	10	6	2	2	2	14
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°	975.9	975.9	975.9	975.9	975.9	975.9	975.9	975.9	975.9
2.5°	984.4	981.9	979.5	975.9	971.1	967.4	963.8	961.4	961.4
5°	997.8	994.1	989.3	980.8	972.3	965.0	957.7	954.1	954.1
7.5°	1007.4	1002.6	992.8	980.8	966.2	955.3	944.4	939.5	937.1
10°	1008.7	1003.7	990.4	972.3	952.9	936.0	923.8	916.5	915.3
12.5°	1011.1	1005.0	988.0	962.6	937.1	916.5	903.1	895.9	893.5
15°	1017.2	1008.7	985.6	952.9	921.4	897.1	882.6	876.5	874.1
17.5°	1011.1	998.9	971.1	932.3	897.1	870.5	855.9	849.8	849.8
20°	986.9	974.7	941.9	899.6	862.0	836.5	821.9	818.3	815.9
22.5°	952.9	939.5	904.4	859.6	821.9	798.9	789.3	784.3	783.2
25°	911.6	898.3	860.7	814.7	778.4	758.9	750.4	750.4	749.2
27.5°	865.6	848.7	809.8	769.9	734.7	720.1	716.5	716.5	717.7
30°	801.3	789.3	756.4	717.7	685.0	675.2	675.2	677.6	677.6
32.5°	732.2	723.8	694.6	660.7	635.2	629.2	631.7	636.5	637.7
35°	666.8	657.1	637.7	607.3	588.0	585.5	589.2	592.8	592.8
37.5°	602.5	592.8	579.5	555.3	540.7	542.0	546.8	551.6	555.3
40°	539.4	532.2	522.5	503.1	492.2	497.0	503.1	508.0	512.8
42.5°	483.7	476.5	469.1	454.7	447.3	453.4	460.6	465.6	470.4
45°	432.8	427.9	420.7	408.6	403.7	409.7	418.2	423.1	427.9
47.5°	389.2	386.8	377.0	366.1	363.7	369.8	377.0	383.1	386.8
50°	349.1	345.5	337.0	326.1	323.7	333.4	338.3	341.9	345.5
52.5°	310.4	306.7	297.1	287.3	287.3	294.5	298.2	299.5	303.0
55°	276.4	272.8	263.1	255.8	253.4	259.5	261.9	261.9	264.3
57.5°	244.9	241.2	231.6	223.1	221.8	225.5	225.5	225.5	226.6
60°	214.6	210.9	201.3	194.0	191.5	192.8	191.5	190.3	191.5
62.5°	186.7	183.1	173.3	164.8	162.4	162.4	158.9	157.6	158.9
65°	161.3	155.2	147.8	139.4	134.5	130.9	126.1	126.1	126.1
67.5°	135.8	130.9	122.5	114.0	107.9	101.9	94.5	97.0	98.2
70°	112.8	109.1	99.4	91.0	82.5	75.1	69.0	71.6	72.7
72.5°	92.1	87.3	78.8	69.0	61.8	52.1	48.5	50.9	50.9
75°	71.6	66.6	59.4	49.7	41.2	32.7	32.7	34.0	34.0
77.5°	53.3	48.5	41.2	32.7	25.5	19.4	20.6	20.6	20.6
80°	36.4	32.7	26.7	19.4	13.3	10.9	10.9	10.9	12.2
82.5°	20.6	18.2	14.6	9.7	6.1	6.1	6.1	6.1	6.1
85°	9.7	7.2	6.1	3.7	2.4	2.4	2.4	2.4	2.4
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)