

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: P584209

Luminaire Tested: **HC825D010-HM82555935-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584209  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC825D010-HM82555935-81RWWH  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" 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: 2206.1 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

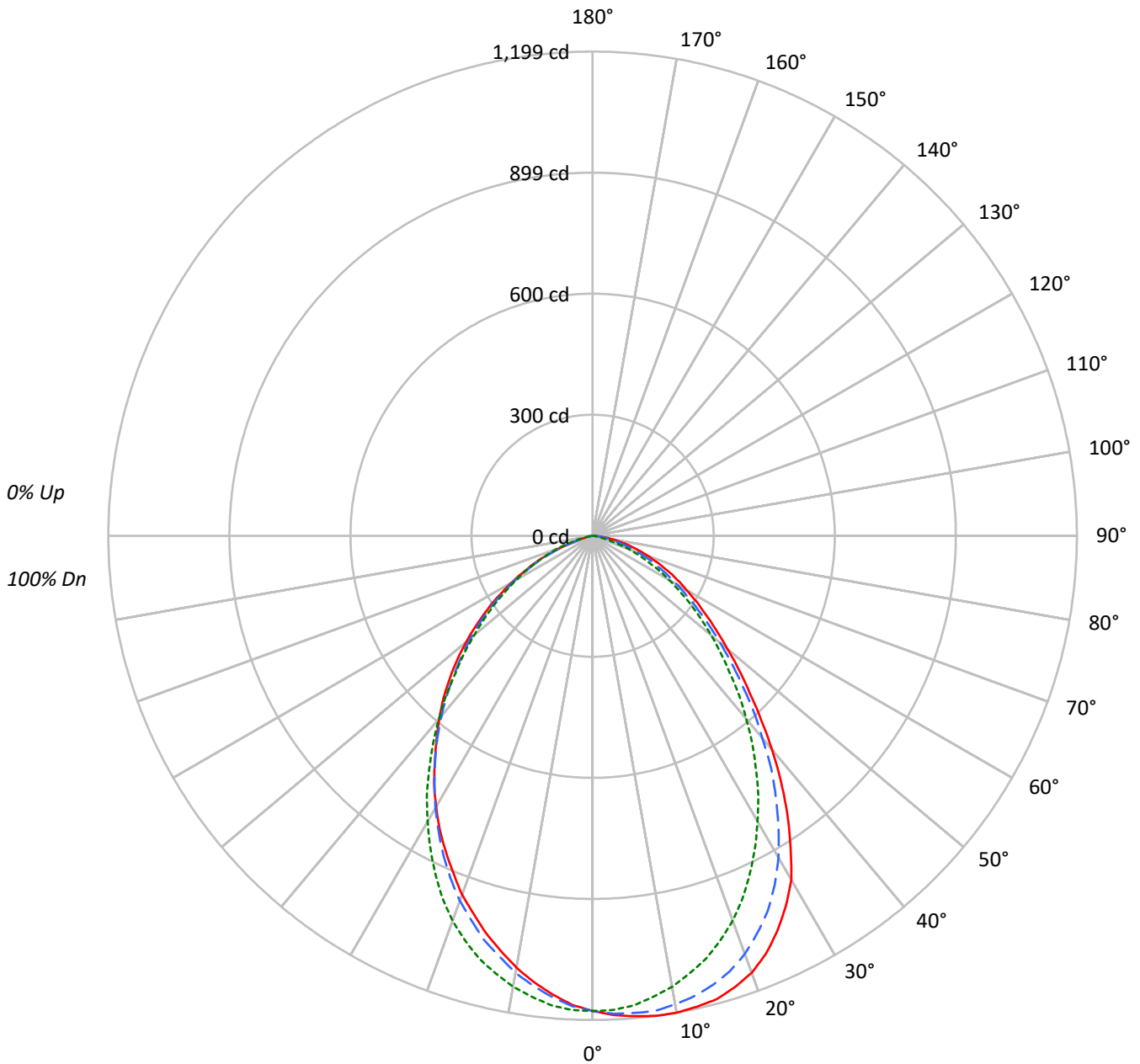
Input Watts (W): 26.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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				
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	63	71	66	62	69	65	61	59				59				
5	81	70	62	56	79	69	62	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	36	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°	36288	36288	36288
5°	36968	36133	35291
10°	37546	35502	34002
15°	37923	34615	32531
20°	37780	33278	31030
25°	36783	31360	29295
30°	35033	29069	27595
35°	31636	26532	25628
40°	27795	23814	23750
45°	23989	20932	21835
50°	20883	18359	19582
55°	18515	15946	17064
60°	16522	13475	14160
65°	14899	10937	11171
70°	13226	8186	6618
75°	11402	4754	2859
80°	8772	1687	852
85°	5626	566	566



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.5	5.0
10°-20°	307.5	13.9
20°-30°	435.0	19.7
30°-40°	458.3	20.8
40°-50°	389.5	17.7
50°-60°	280.5	12.7
60°-70°	161.8	7.3
70°-80°	55.4	2.5
80°-90°	7.6	0.3
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°	853.0	38.7
0°-40°	1311.3	59.4
0°-60°	1981.3	89.8
0°-90°	2206.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2206.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1177	1177	1177	1177	1177	
5°	1194	1186	1167	1146	1140	114
15°	1188	1151	1084	1036	1019	334
25°	1081	1025	922	874	861	496
35°	840	791	705	679	681	523
45°	550	525	480	483	501	427
55°	344	317	297	308	317	310
65°	204	175	150	147	153	203
75°	96	72	40	26	24	101
85°	16	10	2	2	2	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8
2.5°	1187.9	1189.5	1187.9	1187.9	1186.4	1184.8	1183.2	1181.6	1178.4	1175.2	1175.2
5°	1194.3	1197.5	1194.3	1194.3	1189.5	1186.4	1183.2	1178.4	1172.0	1167.3	1167.3
7.5°	1199.1	1199.1	1199.1	1194.3	1191.1	1186.4	1178.4	1170.5	1162.4	1154.4	1151.3
10°	1199.1	1199.1	1197.5	1191.1	1187.9	1178.4	1170.5	1159.2	1148.1	1137.0	1133.8
12.5°	1194.3	1195.9	1192.7	1186.4	1178.4	1167.3	1156.0	1141.7	1129.0	1116.2	1109.8
15°	1187.9	1186.4	1183.2	1175.2	1165.7	1151.3	1140.1	1124.1	1106.6	1090.7	1084.3
17.5°	1172.0	1172.0	1167.3	1159.2	1146.5	1130.6	1113.0	1095.5	1076.3	1058.8	1050.8
20°	1151.3	1151.3	1144.9	1135.4	1122.5	1101.9	1082.7	1062.0	1039.6	1022.2	1014.1
22.5°	1121.0	1122.5	1114.6	1103.5	1089.0	1065.2	1046.0	1020.6	998.2	977.4	971.1
25°	1081.1	1084.3	1076.3	1065.2	1046.0	1025.3	1001.4	977.4	952.0	931.2	921.7
27.5°	1034.9	1036.5	1028.5	1017.4	998.2	975.8	952.0	926.4	902.5	880.2	870.7
30°	983.9	977.4	974.2	959.9	939.2	920.1	892.9	872.3	846.7	827.5	816.4
32.5°	912.1	915.3	905.8	894.5	878.6	856.3	834.0	810.1	786.1	771.8	763.8
35°	840.4	843.5	838.8	827.5	810.1	790.9	768.6	751.0	730.3	712.7	704.8
37.5°	765.4	765.4	762.2	755.8	743.1	725.6	703.2	685.7	668.1	653.8	649.0
40°	690.5	687.3	685.7	680.8	669.7	653.8	639.4	625.1	607.5	597.9	591.6
42.5°	617.1	617.1	613.9	609.2	597.9	590.0	575.7	559.7	547.0	537.4	537.4
45°	550.1	551.7	547.0	543.8	537.4	524.6	511.9	500.7	489.5	483.1	480.0
47.5°	491.1	491.1	486.3	483.1	476.8	465.7	454.4	444.9	436.9	432.2	430.6
50°	435.3	435.3	435.3	427.4	419.3	411.4	403.4	392.3	387.4	384.3	382.7
52.5°	387.4	385.8	385.8	379.5	371.5	362.0	354.0	344.4	339.6	336.4	338.0
55°	344.4	344.4	342.8	334.9	326.9	317.4	309.3	301.4	298.2	295.0	296.6
56°	326.9	326.9	325.3	319.0	309.3	301.4	291.8	283.9	279.1	280.7	280.7
57°	314.2	310.9	310.9	302.9	295.0	283.9	275.8	267.9	264.7	263.1	263.1
58°	298.2	296.6	295.0	287.0	279.1	269.5	261.5	253.6	248.8	248.8	247.2
59°	282.3	282.3	279.1	272.6	264.7	255.1	247.2	239.1	234.4	232.8	232.8
60°	267.9	269.5	264.7	258.3	252.0	240.8	231.2	224.8	220.1	218.5	218.5
61°	255.1	255.1	252.0	244.0	236.0	228.0	218.5	210.5	207.3	204.2	204.2
62°	244.0	240.8	239.1	231.2	223.2	213.7	205.7	197.7	192.9	189.7	191.3
63°	229.6	228.0	224.8	218.5	210.5	200.9	191.3	185.0	180.2	175.4	177.0
64°	218.5	216.9	212.1	205.7	197.7	188.2	178.6	172.2	169.1	164.2	162.6
65°	204.2	202.6	200.9	192.9	185.0	175.4	167.5	161.0	156.2	153.1	149.9
66°	191.3	192.9	189.7	183.4	173.8	165.9	154.7	148.3	145.1	140.3	137.2
67°	180.2	180.2	177.0	170.7	161.0	153.1	145.1	137.2	132.4	127.5	125.9
67.5°	173.8	173.8	170.7	162.6	156.2	146.7	138.8	132.4	125.9	122.7	119.6
68°	167.5	167.5	165.9	159.4	151.5	141.9	134.0	125.9	119.6	114.8	113.2
69°	156.2	157.8	154.7	148.3	140.3	130.8	122.7	116.4	110.0	105.3	102.1
70°	146.7	145.1	141.9	135.6	127.5	121.2	113.2	105.3	98.9	92.4	90.8
71°	134.0	134.0	130.8	125.9	118.0	110.0	102.1	95.7	89.3	81.3	79.7
72°	124.3	124.3	121.2	114.8	108.4	100.5	92.4	84.5	79.7	71.8	68.6
72.5°	118.0	119.6	116.4	110.0	103.7	94.1	87.7	81.3	73.4	67.0	63.8
73°	114.8	113.2	111.6	105.3	97.3	90.8	82.9	76.5	68.6	62.2	59.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	71.8	71.8	70.2	63.8	57.4	51.0	44.6	38.3	31.9	25.5	22.4
80°	49.4	51.0	47.8	44.6	39.9	33.5	27.1	22.4	15.9	12.7	9.5
82.5°	31.9	31.9	30.3	27.1	24.0	19.2	15.9	11.1	8.0	6.4	4.8
85°	15.9	17.5	15.9	14.3	11.1	9.5	8.0	4.8	3.2	1.6	1.6
87.5°	6.4	6.4	6.4	4.8	4.8	3.2	1.6	1.6	1.6	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8
2.5°	1172.0	1172.0	1168.9	1167.3	1165.7	1164.1	1162.4	1160.8	1160.8	1162.4
5°	1162.4	1159.2	1152.9	1151.3	1146.5	1144.9	1141.7	1140.1	1141.7	1140.1
7.5°	1148.1	1141.7	1133.8	1130.6	1124.1	1121.0	1116.2	1116.2	1113.0	1114.6
10°	1129.0	1119.4	1109.8	1103.5	1098.7	1093.9	1090.7	1087.5	1085.9	1085.9
12.5°	1105.0	1093.9	1084.3	1074.7	1066.8	1063.6	1057.2	1057.2	1054.1	1052.5
15°	1077.9	1063.6	1052.5	1042.8	1036.5	1030.1	1025.3	1022.2	1019.0	1019.0
17.5°	1042.8	1030.1	1019.0	1007.7	998.2	993.4	988.7	983.9	983.9	980.7
20°	1004.6	990.3	980.7	969.5	961.5	953.6	947.2	947.2	944.0	945.6
22.5°	961.5	944.0	934.4	926.4	918.5	912.1	905.8	905.8	904.2	902.5
25°	913.7	899.3	888.2	878.6	873.9	867.4	865.8	862.6	861.0	861.0
27.5°	862.6	851.5	837.2	832.4	826.0	822.8	822.8	821.2	818.0	819.6
30°	808.5	795.7	787.7	784.5	778.1	778.1	776.6	773.4	773.4	775.0
32.5°	755.8	743.1	736.7	735.1	728.7	728.7	727.2	728.7	728.7	730.3
35°	698.4	687.3	685.7	680.8	679.3	679.3	679.3	682.4	685.7	680.8
37.5°	644.2	636.2	631.4	629.9	631.4	631.4	633.0	637.8	636.2	634.6
40°	588.4	582.0	578.9	578.9	582.0	585.2	585.2	590.0	591.6	590.0
42.5°	532.5	527.8	527.8	529.4	532.5	534.1	539.0	543.8	545.4	547.0
45°	480.0	480.0	480.0	481.6	483.1	486.3	492.7	497.6	499.2	500.7
47.5°	429.0	427.4	432.2	433.8	438.5	440.1	444.9	451.2	452.8	454.4
50°	381.1	384.3	385.8	390.7	393.9	393.9	400.3	403.4	408.2	408.2
52.5°	336.4	341.2	342.8	347.6	349.2	350.9	354.0	358.8	362.0	362.0
55°	296.6	298.2	301.4	302.9	307.7	309.3	312.5	314.2	319.0	317.4
56°	279.1	282.3	283.9	287.0	290.2	291.8	295.0	296.6	299.8	301.4
57°	263.1	264.7	269.5	271.0	274.2	274.2	275.8	280.7	280.7	282.3
58°	247.2	250.4	252.0	253.6	256.7	258.3	261.5	263.1	264.7	263.1
59°	232.8	234.4	236.0	236.0	239.1	239.1	244.0	247.2	248.8	248.8
60°	218.5	218.5	220.1	221.6	224.8	226.4	226.4	229.6	229.6	229.6
61°	204.2	204.2	205.7	207.3	208.9	208.9	212.1	212.1	213.7	215.3
62°	191.3	189.7	189.7	191.3	191.3	194.5	196.1	197.7	199.3	197.7
63°	177.0	175.4	175.4	175.4	175.4	178.6	178.6	180.2	183.4	181.8
64°	161.0	161.0	161.0	161.0	162.6	162.6	165.9	167.5	169.1	170.7
65°	149.9	146.7	145.1	145.1	146.7	148.3	149.9	151.5	153.1	153.1
66°	137.2	134.0	132.4	132.4	132.4	132.4	135.6	135.6	138.8	138.8
67°	122.7	119.6	118.0	116.4	116.4	116.4	121.2	119.6	119.6	119.6
67.5°	118.0	113.2	111.6	110.0	108.4	111.6	110.0	111.6	111.6	110.0
68°	111.6	108.4	105.3	102.1	102.1	102.1	103.7	105.3	103.7	102.1
69°	98.9	97.3	92.4	89.3	87.7	89.3	87.7	89.3	87.7	89.3
70°	87.7	82.9	78.1	76.5	74.9	74.9	74.9	73.4	74.9	73.4
71°	76.5	71.8	67.0	63.8	62.2	62.2	60.6	62.2	60.6	62.2
72°	65.4	60.6	54.2	51.0	51.0	51.0	51.0	49.4	51.0	49.4
72.5°	60.6	54.2	49.4	46.2	44.6	44.6	44.6	44.6	43.0	44.6
73°	55.9	49.4	43.0	41.4	41.4	41.4	39.9	38.3	39.9	39.9





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	19.2	14.3	12.7	12.7	12.7	12.7	12.7	12.7	11.1	11.1
80°	8.0	6.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	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°







74°	103.7	103.7	100.5	95.7	87.7	79.7	73.4	67.0	59.0	51.0	47.8
75°	95.7	94.1	90.8	86.1	79.7	71.8	65.4	57.4	51.0	43.0	39.9







74°	46.2	38.3	35.1	31.9	31.9	31.9	30.3	30.3	30.3	31.9
75°	36.7	30.3	27.1	24.0	25.5	24.0	25.5	24.0	24.0	24.0



(END OF REPORT)