

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: P584006

Luminaire Tested: **HC820D010-HM80520835-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584006
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: HC820D010-HM80520835-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" 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: 2084.7 lumens
Efficiency: N/A
Efficacy: 104.2 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

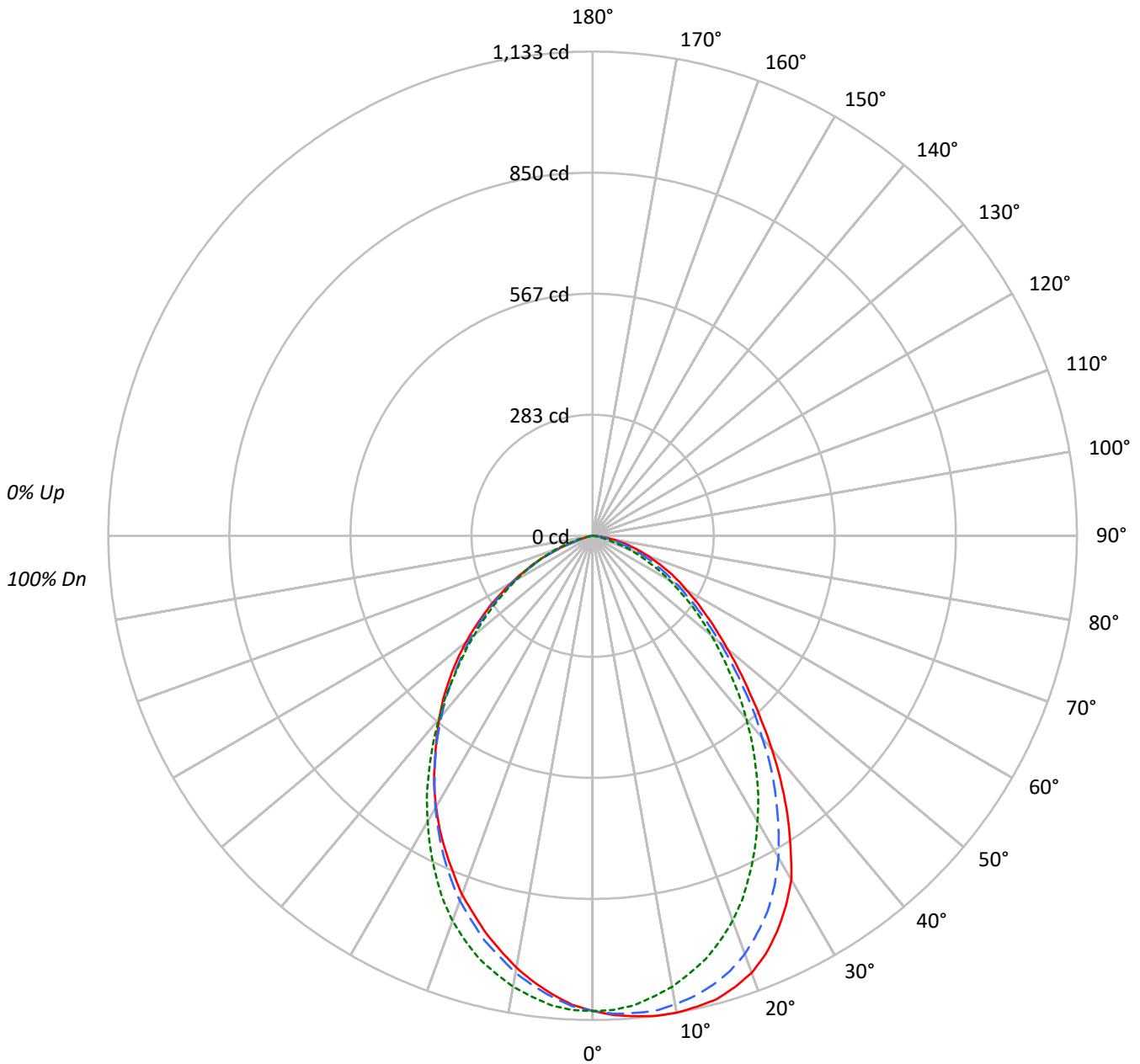
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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°	34290	34290	34290
5°	34935	34142	33350
10°	35483	33548	32132
15°	35835	32713	30740
20°	35700	31450	29324
25°	34759	29632	27685
30°	33107	27471	26078
35°	29893	25075	24220
40°	26266	22506	22442
45°	22668	19777	20636
50°	19731	17352	18508
55°	17499	15069	16123
60°	15616	12729	13383
65°	14075	10332	10558
70°	12496	7745	6248
75°	10770	4492	2693
80°	8293	1598	799
85°	5307	531	531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	5.0
10°-20°	290.6	13.9
20°-30°	411.0	19.7
30°-40°	433.1	20.8
40°-50°	368.1	17.7
50°-60°	265.1	12.7
60°-70°	152.9	7.3
70°-80°	52.3	2.5
80°-90°	7.2	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°	806.0	38.7
0°-40°	1239.2	59.4
0°-60°	1872.3	89.8
0°-90°	2084.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2084.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1112	1112	1112	1112	1112	
5°	1129	1121	1103	1083	1077	108
15°	1122	1088	1025	979	963	316
25°	1022	969	871	826	814	469
35°	794	747	666	642	643	495
45°	520	496	454	457	473	404
55°	326	300	280	291	300	293
65°	193	166	142	139	145	192
75°	90	68	38	24	23	95
85°	15	9	2	2	2	20
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°	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0
2.5°	1122.5	1124.1	1122.5	1122.5	1121.1	1119.6	1118.1	1116.5	1113.6	1110.5	1110.5
5°	1128.6	1131.6	1128.6	1128.6	1124.1	1121.1	1118.1	1113.6	1107.5	1103.0	1103.0
7.5°	1133.2	1133.2	1133.2	1128.6	1125.6	1121.1	1113.6	1106.0	1098.4	1091.0	1087.9
10°	1133.2	1133.2	1131.6	1125.6	1122.5	1113.6	1106.0	1095.5	1085.0	1074.3	1071.4
12.5°	1128.6	1130.1	1127.2	1121.1	1113.6	1103.0	1092.4	1078.9	1066.9	1054.8	1048.8
15°	1122.5	1121.1	1118.1	1110.5	1101.5	1087.9	1077.4	1062.3	1045.7	1030.7	1024.7
17.5°	1107.5	1107.5	1103.0	1095.5	1083.4	1068.3	1051.7	1035.2	1017.1	1000.6	993.0
20°	1087.9	1087.9	1081.9	1072.9	1060.8	1041.2	1023.1	1003.5	982.5	965.9	958.4
22.5°	1059.3	1060.8	1053.3	1042.8	1029.2	1006.6	988.5	964.4	943.2	923.7	917.7
25°	1021.6	1024.7	1017.1	1006.6	988.5	968.9	946.3	923.7	899.6	880.0	870.9
27.5°	978.0	979.4	972.0	961.3	943.2	922.2	899.6	875.5	852.8	831.8	822.7
30°	929.8	923.7	920.7	907.1	887.6	869.5	843.8	824.2	800.1	782.0	771.5
32.5°	861.9	864.9	855.9	845.4	830.2	809.2	788.0	765.5	742.9	729.3	721.7
35°	794.1	797.1	792.6	782.0	765.5	747.4	726.3	709.7	690.2	673.5	666.1
37.5°	723.3	723.3	720.3	714.3	702.2	685.6	664.5	648.0	631.3	617.8	613.3
40°	652.5	649.4	648.0	643.4	632.8	617.8	604.2	590.6	574.1	565.1	559.1
42.5°	583.2	583.2	580.1	575.6	565.1	557.5	544.0	528.9	516.9	507.8	507.8
45°	519.8	521.4	516.9	513.8	507.8	495.7	483.7	473.2	462.6	456.6	453.5
47.5°	464.1	464.1	459.6	456.6	450.6	439.9	429.4	420.4	412.9	408.4	406.8
50°	411.3	411.3	411.3	403.9	396.3	388.8	381.2	370.7	366.2	363.1	361.7
52.5°	366.2	364.6	364.6	358.6	351.1	342.1	334.5	325.5	320.9	318.0	319.5
55°	325.5	325.5	324.0	316.4	308.9	299.9	292.3	284.7	281.8	278.7	280.3
56°	308.9	308.9	307.4	301.4	292.3	284.7	275.8	268.2	263.7	265.2	265.2
57°	296.8	293.8	293.8	286.3	278.7	268.2	260.6	253.2	250.1	248.6	248.6
58°	281.8	280.3	278.7	271.3	263.7	254.6	247.2	239.6	235.1	235.1	233.6
59°	266.7	266.7	263.7	257.7	250.1	241.1	233.6	226.0	221.5	220.0	220.0
60°	253.2	254.6	250.1	244.1	238.1	227.5	218.4	212.4	207.9	206.4	206.4
61°	241.1	241.1	238.1	230.5	223.0	215.5	206.4	198.9	195.9	192.9	192.9
62°	230.5	227.5	226.0	218.4	211.0	201.9	194.4	186.9	182.4	179.3	180.8
63°	217.0	215.5	212.4	206.4	198.9	189.8	180.8	174.8	170.3	165.7	167.3
64°	206.4	205.0	200.5	194.4	186.9	177.8	168.8	162.8	159.7	155.2	153.7
65°	192.9	191.4	189.8	182.4	174.8	165.7	158.3	152.2	147.6	144.7	141.6
66°	180.8	182.4	179.3	173.3	164.3	156.7	146.2	140.2	137.1	132.6	129.5
67°	170.3	170.3	167.3	161.2	152.2	144.7	137.1	129.5	125.1	120.6	119.0
67.5°	164.3	164.3	161.2	153.7	147.6	138.6	131.1	125.1	119.0	116.1	113.0
68°	158.3	158.3	156.7	150.7	143.1	134.2	126.6	119.0	113.0	108.5	107.0
69°	147.6	149.2	146.2	140.2	132.6	123.5	116.1	110.0	104.0	99.4	96.5
70°	138.6	137.1	134.2	128.1	120.6	114.5	107.0	99.4	93.4	87.3	85.9
71°	126.6	126.6	123.5	119.0	111.5	104.0	96.5	90.4	84.4	76.8	75.3
72°	117.5	117.5	114.5	108.5	102.5	94.9	87.3	79.9	75.3	67.8	64.8
72.5°	111.5	113.0	110.0	104.0	98.0	88.9	82.9	76.8	69.3	63.2	60.3
73°	108.5	107.0	105.4	99.4	92.0	85.9	78.4	72.3	64.8	58.7	55.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	67.8	67.8	66.3	60.3	54.3	48.2	42.2	36.2	30.1	24.1	21.0
80°	46.7	48.2	45.2	42.2	37.7	31.7	25.6	21.0	15.0	12.1	9.0
82.5°	30.1	30.1	28.6	25.6	22.6	18.1	15.0	10.5	7.6	6.0	4.5
85°	15.0	16.5	15.0	13.6	10.5	9.0	7.6	4.5	3.0	1.5	1.5
87.5°	6.0	6.0	6.0	4.5	4.5	3.0	1.5	1.5	1.5	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°	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0	1112.0
2.5°	1107.5	1107.5	1104.5	1103.0	1101.5	1100.0	1098.4	1097.0	1097.0	1098.4
5°	1098.4	1095.5	1089.4	1087.9	1083.4	1081.9	1078.9	1077.4	1078.9	1077.4
7.5°	1085.0	1078.9	1071.4	1068.3	1062.3	1059.3	1054.8	1054.8	1051.7	1053.3
10°	1066.9	1057.8	1048.8	1042.8	1038.2	1033.7	1030.7	1027.6	1026.2	1026.2
12.5°	1044.2	1033.7	1024.7	1015.6	1008.1	1005.1	999.0	999.0	996.1	994.5
15°	1018.6	1005.1	994.5	985.4	979.4	973.4	968.9	965.9	962.9	962.9
17.5°	985.4	973.4	962.9	952.3	943.2	938.7	934.3	929.8	929.8	926.7
20°	949.3	935.8	926.7	916.2	908.6	901.0	895.0	895.0	892.1	893.6
22.5°	908.6	892.1	883.0	875.5	867.9	861.9	855.9	855.9	854.3	852.8
25°	863.5	849.9	839.3	830.2	825.7	819.7	818.2	815.2	813.7	813.7
27.5°	815.2	804.7	791.1	786.6	780.6	777.5	777.5	776.0	773.0	774.6
30°	763.9	751.9	744.4	741.4	735.3	735.3	733.8	730.8	730.8	732.4
32.5°	714.3	702.2	696.2	694.7	688.6	688.6	687.1	688.6	688.6	690.2
35°	660.0	649.4	648.0	643.4	641.9	641.9	641.9	644.9	648.0	643.4
37.5°	608.7	601.3	596.7	595.3	596.7	596.7	598.2	602.7	601.3	599.7
40°	556.0	550.0	547.0	547.0	550.0	553.1	553.1	557.5	559.1	557.5
42.5°	503.3	498.8	498.8	500.2	503.3	504.8	509.3	513.8	515.4	516.9
45°	453.5	453.5	453.5	455.1	456.6	459.6	465.6	470.1	471.6	473.2
47.5°	405.3	403.9	408.4	409.9	414.4	415.8	420.4	426.5	427.9	429.4
50°	360.2	363.1	364.6	369.1	372.2	372.2	378.2	381.2	385.8	385.8
52.5°	318.0	322.4	324.0	328.5	330.0	331.6	334.5	339.0	342.1	342.1
55°	280.3	281.8	284.7	286.3	290.8	292.3	295.4	296.8	301.4	299.9
56°	263.7	266.7	268.2	271.3	274.2	275.8	278.7	280.3	283.3	284.7
57°	248.6	250.1	254.6	256.1	259.2	259.2	260.6	265.2	265.2	266.7
58°	233.6	236.5	238.1	239.6	242.5	244.1	247.2	248.6	250.1	248.6
59°	220.0	221.5	223.0	223.0	226.0	226.0	230.5	233.6	235.1	235.1
60°	206.4	206.4	207.9	209.5	212.4	213.9	213.9	217.0	217.0	217.0
61°	192.9	192.9	194.4	195.9	197.4	197.4	200.5	200.5	201.9	203.4
62°	180.8	179.3	179.3	180.8	180.8	183.8	185.3	186.9	188.4	186.9
63°	167.3	165.7	165.7	165.7	165.7	168.8	168.8	170.3	173.3	171.7
64°	152.2	152.2	152.2	152.2	153.7	153.7	156.7	158.3	159.7	161.2
65°	141.6	138.6	137.1	137.1	138.6	140.2	141.6	143.1	144.7	144.7
66°	129.5	126.6	125.1	125.1	125.1	125.1	128.1	128.1	131.1	131.1
67°	116.1	113.0	111.5	110.0	110.0	110.0	114.5	113.0	113.0	113.0
67.5°	111.5	107.0	105.4	104.0	102.5	105.4	104.0	105.4	105.4	104.0
68°	105.4	102.5	99.4	96.5	96.5	96.5	98.0	99.4	98.0	96.5
69°	93.4	92.0	87.3	84.4	82.9	84.4	82.9	84.4	82.9	84.4
70°	82.9	78.4	73.9	72.3	70.8	70.8	70.8	69.3	70.8	69.3
71°	72.3	67.8	63.2	60.3	58.7	58.7	57.2	58.7	57.2	58.7
72°	61.8	57.2	51.2	48.2	48.2	48.2	48.2	46.7	48.2	46.7
72.5°	57.2	51.2	46.7	43.7	42.2	42.2	42.2	42.2	40.7	42.2
73°	52.7	46.7	40.7	39.1	39.1	39.1	37.7	36.2	37.7	37.7



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	18.1	13.6	12.1	12.1	12.1	12.1	12.1	12.1	10.5	10.5
80°	7.6	6.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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°	98.0	98.0	94.9	90.4	82.9	75.3	69.3	63.2	55.8	48.2	45.2
75°	90.4	88.9	85.9	81.3	75.3	67.8	61.8	54.3	48.2	40.7	37.7





74°	43.7	36.2	33.1	30.1	30.1	30.1	28.6	28.6	28.6	30.1
75°	34.6	28.6	25.6	22.6	24.1	22.6	24.1	22.6	22.6	22.6



(END OF REPORT)