

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: P583992

Luminaire Tested: **HC820D010-HM80520830-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583992
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-HM80520830-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2003.9 lumens
Efficiency: N/A
Efficacy: 100.2 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

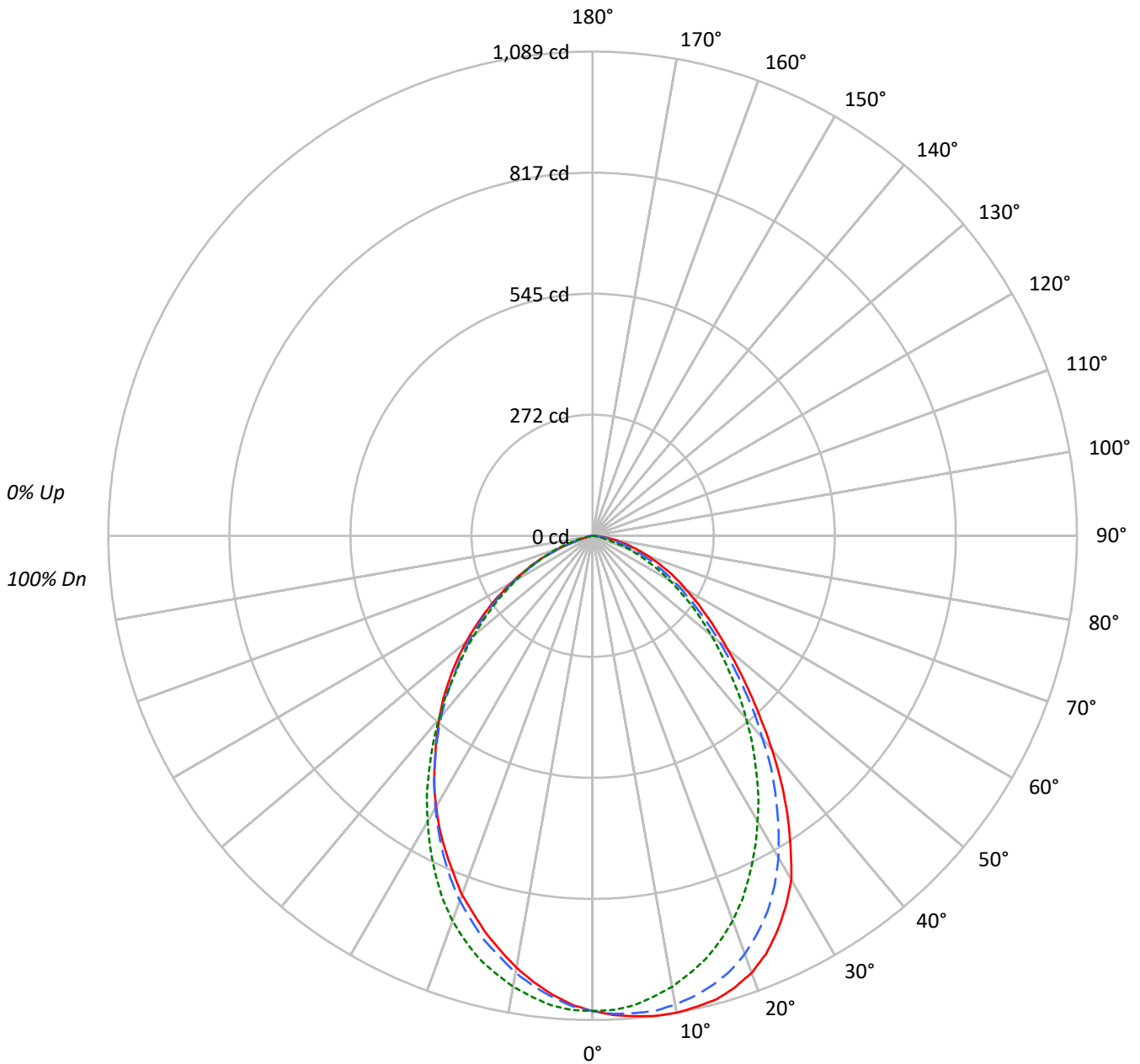
Input Watts (W): 20
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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																			
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	32961	32961	32961
5°	33579	32821	32059
10°	34105	32248	30886
15°	34446	31445	29546
20°	34315	30233	28188
25°	33412	28485	26610
30°	31822	26406	25064
35°	28734	24100	23279
40°	25247	21628	21572
45°	21791	19009	19833
50°	18968	16675	17788
55°	16822	14483	15499
60°	15011	12242	12865
65°	13535	9938	10142
70°	12009	7438	6014
75°	10353	4313	2585
80°	7973	1545	781
85°	5130	495	495



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.3	5.0
10°-20°	279.3	13.9
20°-30°	395.1	19.7
30°-40°	416.3	20.8
40°-50°	353.8	17.7
50°-60°	254.8	12.7
60°-70°	147.0	7.3
70°-80°	50.3	2.5
80°-90°	6.9	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°	774.8	38.7
0°-40°	1191.1	59.4
0°-60°	1799.7	89.8
0°-90°	2003.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2003.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1069	1069	1069	1069	1069	
5°	1085	1078	1060	1042	1036	104
15°	1079	1046	985	942	926	304
25°	982	931	837	794	782	450
35°	763	718	640	617	618	475
45°	500	477	436	439	455	388
55°	313	288	269	280	288	282
65°	186	159	136	133	139	184
75°	87	65	36	23	22	92
85°	14	9	1	1	1	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°	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9
2.5°	1079.0	1080.5	1079.0	1079.0	1077.6	1076.2	1074.7	1073.3	1070.4	1067.5	1067.5
5°	1084.8	1087.8	1084.8	1084.8	1080.5	1077.6	1074.7	1070.4	1064.6	1060.3	1060.3
7.5°	1089.2	1089.2	1089.2	1084.8	1082.0	1077.6	1070.4	1063.1	1055.9	1048.7	1045.7
10°	1089.2	1089.2	1087.8	1082.0	1079.0	1070.4	1063.1	1053.0	1042.9	1032.7	1029.9
12.5°	1084.8	1086.3	1083.4	1077.6	1070.4	1060.3	1050.1	1037.1	1025.5	1013.9	1008.1
15°	1079.0	1077.6	1074.7	1067.5	1058.8	1045.7	1035.7	1021.1	1005.2	990.8	985.0
17.5°	1064.6	1064.6	1060.3	1053.0	1041.5	1026.9	1011.0	995.0	977.6	961.8	954.5
20°	1045.7	1045.7	1039.9	1031.3	1019.7	1000.9	983.4	964.6	944.4	928.5	921.3
22.5°	1018.3	1019.7	1012.5	1002.3	989.2	967.6	950.2	927.0	906.7	887.9	882.1
25°	982.0	985.0	977.6	967.6	950.2	931.3	909.7	887.9	864.8	845.8	837.2
27.5°	940.0	941.5	934.3	924.1	906.7	886.4	864.8	841.6	819.8	799.5	790.9
30°	893.7	887.9	885.0	872.0	853.2	835.8	811.1	792.3	769.1	751.8	741.6
32.5°	828.5	831.4	822.7	812.5	798.1	777.8	757.5	735.8	714.0	701.0	693.8
35°	763.3	766.2	761.9	751.8	735.8	718.4	698.1	682.3	663.3	647.5	640.2
37.5°	695.3	695.3	692.3	686.5	674.9	659.1	638.8	622.8	606.8	593.8	589.5
40°	627.2	624.2	622.8	618.4	608.4	593.8	580.8	567.8	551.9	543.1	537.3
42.5°	560.5	560.5	557.7	553.3	543.1	535.9	522.9	508.4	496.8	488.2	488.2
45°	499.7	501.2	496.8	494.0	488.2	476.6	465.0	454.8	444.7	438.9	435.9
47.5°	446.1	446.1	441.7	438.9	433.1	422.9	412.8	404.1	396.9	392.5	391.1
50°	395.4	395.4	395.4	388.2	381.0	373.7	366.4	356.3	352.0	349.0	347.6
52.5°	352.0	350.5	350.5	344.7	337.5	328.8	321.5	312.9	308.5	305.7	307.1
55°	312.9	312.9	311.5	304.1	296.9	288.3	281.0	273.8	270.8	268.0	269.4
56°	296.9	296.9	295.5	289.7	281.0	273.8	265.0	257.8	253.4	255.0	255.0
57°	285.3	282.5	282.5	275.2	268.0	257.8	250.6	243.4	240.4	239.0	239.0
58°	270.8	269.4	268.0	260.7	253.4	244.8	237.6	230.3	226.0	226.0	224.5
59°	256.4	256.4	253.4	247.6	240.4	231.8	224.5	217.3	212.9	211.5	211.5
60°	243.4	244.8	240.4	234.6	228.8	218.7	210.0	204.2	199.9	198.5	198.5
61°	231.8	231.8	228.8	221.6	214.4	207.1	198.5	191.2	188.3	185.5	185.5
62°	221.6	218.7	217.3	210.0	202.8	194.1	186.9	179.5	175.3	172.3	173.8
63°	208.6	207.1	204.2	198.5	191.2	182.5	173.8	168.0	163.7	159.3	160.8
64°	198.5	197.0	192.7	186.9	179.5	170.9	162.2	156.4	153.5	149.2	147.8
65°	185.5	183.9	182.5	175.3	168.0	159.3	152.1	146.3	142.0	139.0	136.2
66°	173.8	175.3	172.3	166.5	157.9	150.6	140.5	134.7	131.8	127.4	124.6
67°	163.7	163.7	160.8	155.0	146.3	139.0	131.8	124.6	120.2	115.8	114.4
67.5°	157.9	157.9	155.0	147.8	142.0	133.2	126.0	120.2	114.4	111.6	108.6
68°	152.1	152.1	150.6	144.8	137.6	129.0	121.6	114.4	108.6	104.3	102.8
69°	142.0	143.4	140.5	134.7	127.4	118.8	111.6	105.8	100.0	95.6	92.7
70°	133.2	131.8	129.0	123.2	115.8	110.0	102.8	95.6	89.8	84.0	82.5
71°	121.6	121.6	118.8	114.4	107.2	100.0	92.7	86.9	81.1	73.9	72.5
72°	113.0	113.0	110.0	104.3	98.5	91.3	84.0	76.7	72.5	65.1	62.3
72.5°	107.2	108.6	105.8	100.0	94.2	85.5	79.7	73.9	66.7	60.9	57.9
73°	104.3	102.8	101.4	95.6	88.3	82.5	75.3	69.5	62.3	56.5	53.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	65.1	65.1	63.7	57.9	52.1	46.3	40.5	34.8	29.0	23.2	20.3
80°	44.9	46.3	43.5	40.5	36.2	30.4	24.6	20.3	14.5	11.6	8.7
82.5°	29.0	29.0	27.5	24.6	21.7	17.4	14.5	10.2	7.2	5.8	4.4
85°	14.5	16.0	14.5	13.0	10.2	8.7	7.2	4.4	3.0	1.4	1.4
87.5°	5.8	5.8	5.8	4.4	4.4	3.0	1.4	1.4	1.4	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°	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9	1068.9
2.5°	1064.6	1064.6	1061.7	1060.3	1058.8	1057.3	1055.9	1054.5	1054.5	1055.9
5°	1055.9	1053.0	1047.3	1045.7	1041.5	1039.9	1037.1	1035.7	1037.1	1035.7
7.5°	1042.9	1037.1	1029.9	1026.9	1021.1	1018.3	1013.9	1013.9	1011.0	1012.5
10°	1025.5	1016.8	1008.1	1002.3	998.0	993.6	990.8	987.8	986.4	986.4
12.5°	1003.8	993.6	985.0	976.2	969.0	966.0	960.3	960.3	957.4	956.0
15°	979.2	966.0	956.0	947.3	941.5	935.7	931.3	928.5	925.5	925.5
17.5°	947.3	935.7	925.5	915.5	906.7	902.3	898.0	893.7	893.7	890.8
20°	912.5	899.5	890.8	880.6	873.4	866.2	860.4	860.4	857.4	859.0
22.5°	873.4	857.4	848.8	841.6	834.3	828.5	822.7	822.7	821.3	819.8
25°	830.0	816.9	806.7	798.1	793.7	787.9	786.5	783.5	782.1	782.1
27.5°	783.5	773.5	760.4	756.1	750.3	747.4	747.4	746.0	743.0	744.5
30°	734.4	722.8	715.5	712.6	706.8	706.8	705.4	702.5	702.5	703.9
32.5°	686.5	674.9	669.1	667.7	661.9	661.9	660.5	661.9	661.9	663.3
35°	634.4	624.2	622.8	618.4	617.0	617.0	617.0	620.0	622.8	618.4
37.5°	585.2	577.9	573.6	572.1	573.6	573.6	575.0	579.4	577.9	576.5
40°	534.5	528.7	525.8	525.8	528.7	531.5	531.5	535.9	537.3	535.9
42.5°	483.8	479.4	479.4	480.8	483.8	485.2	489.6	494.0	495.4	496.8
45°	435.9	435.9	435.9	437.5	438.9	441.7	447.5	451.9	453.4	454.8
47.5°	389.6	388.2	392.5	394.0	398.3	399.8	404.1	409.9	411.3	412.8
50°	346.2	349.0	350.5	354.8	357.8	357.8	363.6	366.4	370.8	370.8
52.5°	305.7	309.9	311.5	315.7	317.2	318.7	321.5	325.9	328.8	328.8
55°	269.4	270.8	273.8	275.2	279.5	281.0	283.9	285.3	289.7	288.3
56°	253.4	256.4	257.8	260.7	263.6	265.0	268.0	269.4	272.3	273.8
57°	239.0	240.4	244.8	246.2	249.2	249.2	250.6	255.0	255.0	256.4
58°	224.5	227.4	228.8	230.3	233.2	234.6	237.6	239.0	240.4	239.0
59°	211.5	212.9	214.4	214.4	217.3	217.3	221.6	224.5	226.0	226.0
60°	198.5	198.5	199.9	201.3	204.2	205.7	205.7	208.6	208.6	208.6
61°	185.5	185.5	186.9	188.3	189.7	189.7	192.7	192.7	194.1	195.5
62°	173.8	172.3	172.3	173.8	173.8	176.7	178.1	179.5	181.1	179.5
63°	160.8	159.3	159.3	159.3	159.3	162.2	162.2	163.7	166.5	165.1
64°	146.3	146.3	146.3	146.3	147.8	147.8	150.6	152.1	153.5	155.0
65°	136.2	133.2	131.8	131.8	133.2	134.7	136.2	137.6	139.0	139.0
66°	124.6	121.6	120.2	120.2	120.2	120.2	123.2	123.2	126.0	126.0
67°	111.6	108.6	107.2	105.8	105.8	105.8	110.0	108.6	108.6	108.6
67.5°	107.2	102.8	101.4	100.0	98.5	101.4	100.0	101.4	101.4	100.0
68°	101.4	98.5	95.6	92.7	92.7	92.7	94.2	95.6	94.2	92.7
69°	89.8	88.3	84.0	81.1	79.7	81.1	79.7	81.1	79.7	81.1
70°	79.7	75.3	70.9	69.5	68.1	68.1	68.1	66.7	68.1	66.7
71°	69.5	65.1	60.9	57.9	56.5	56.5	55.1	56.5	55.1	56.5
72°	59.3	55.1	49.3	46.3	46.3	46.3	46.3	44.9	46.3	44.9
72.5°	55.1	49.3	44.9	42.0	40.5	40.5	40.5	40.5	39.1	40.5
73°	50.7	44.9	39.1	37.7	37.7	37.7	36.2	34.8	36.2	36.2



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	17.4	13.0	11.6	11.6	11.6	11.6	11.6	11.6	10.2	10.2
80°	7.2	5.8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	94.2	94.2	91.3	86.9	79.7	72.5	66.7	60.9	53.5	46.3	43.5
75°	86.9	85.5	82.5	78.2	72.5	65.1	59.3	52.1	46.3	39.1	36.2





74°	42.0	34.8	31.9	29.0	29.0	29.0	27.5	27.5	27.5	29.0
75°	33.3	27.5	24.6	21.7	23.2	21.7	23.2	21.7	21.7	21.7



(END OF REPORT)