

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: P583975

Luminaire Tested: **HC820D010-HM80520827-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583975
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-HM80520827-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2014.8 lumens
Efficiency: N/A
Efficacy: 100.7 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

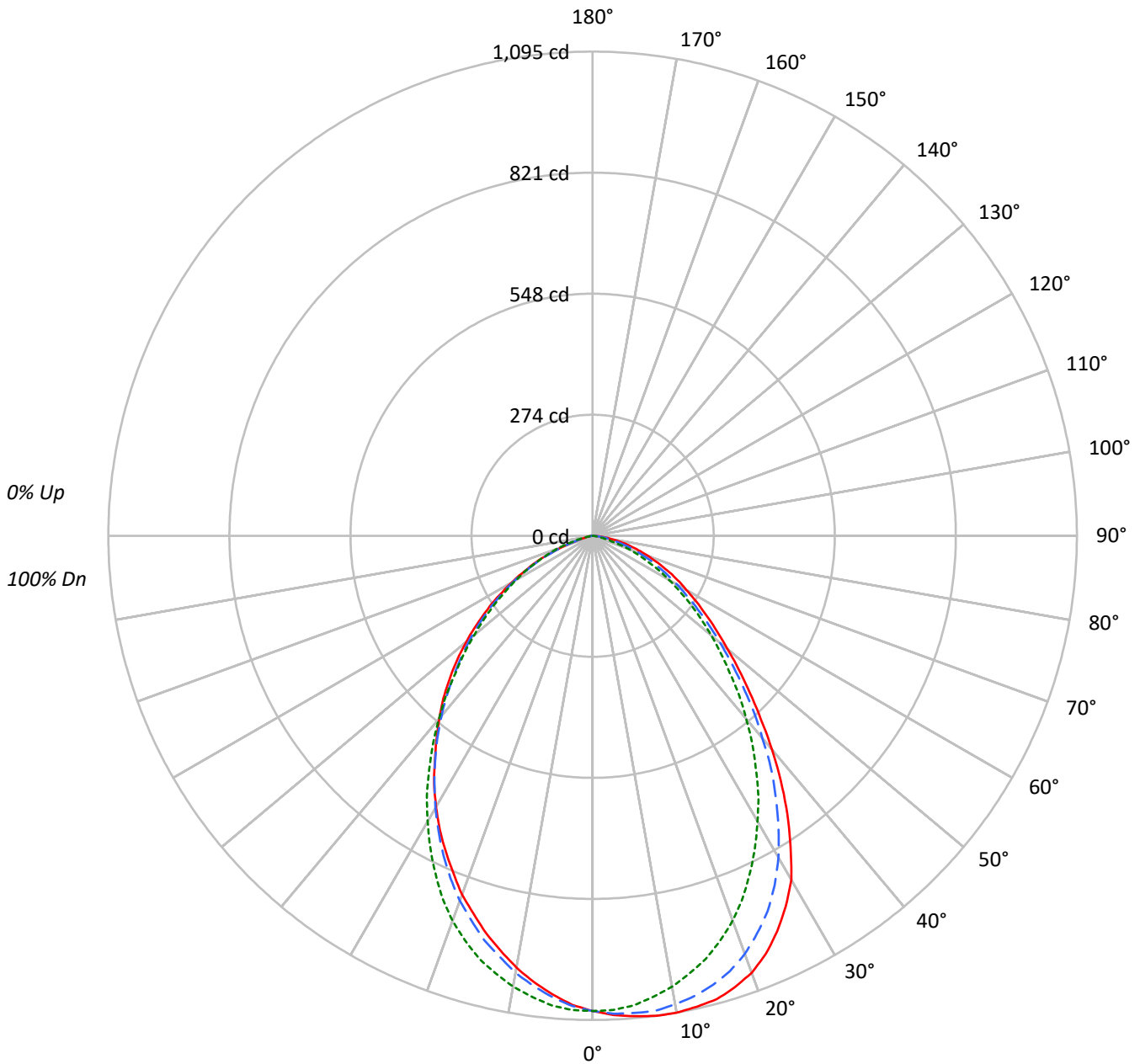
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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																			
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°	33143	33143	33143
5°	33762	32997	32229
10°	34290	32420	31052
15°	34638	31614	29709
20°	34505	30394	28339
25°	33592	28638	26757
30°	31996	26548	25202
35°	28892	24232	23411
40°	25384	21749	21693
45°	21914	19118	19942
50°	19074	16766	17884
55°	16908	14564	15580
60°	15091	12304	12933
65°	13601	9989	10200
70°	12081	7483	6041
75°	10401	4337	2609
80°	8027	1545	781
85°	5130	495	495



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.9	5.0
10°-20°	280.9	13.9
20°-30°	397.3	19.7
30°-40°	418.6	20.8
40°-50°	355.8	17.7
50°-60°	256.2	12.7
60°-70°	147.8	7.3
70°-80°	50.6	2.5
80°-90°	7.0	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°	779.0	38.7
0°-40°	1197.6	59.4
0°-60°	1809.5	89.8
0°-90°	2014.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2014.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1075	1075	1075	1075	1075	
5°	1091	1084	1066	1047	1041	104
15°	1085	1052	990	947	931	305
25°	987	936	842	798	786	453
35°	768	722	644	620	622	478
45°	502	479	438	441	457	390
55°	314	290	271	281	290	283
65°	186	160	137	134	140	185
75°	87	66	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°	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8
2.5°	1085.0	1086.4	1085.0	1085.0	1083.5	1082.0	1080.6	1079.2	1076.2	1073.3	1073.3
5°	1090.7	1093.7	1090.7	1090.7	1086.4	1083.5	1080.6	1076.2	1070.4	1066.0	1066.0
7.5°	1095.1	1095.1	1095.1	1090.7	1087.9	1083.5	1076.2	1068.9	1061.7	1054.3	1051.5
10°	1095.1	1095.1	1093.7	1087.9	1085.0	1076.2	1068.9	1058.7	1048.6	1038.4	1035.4
12.5°	1090.7	1092.3	1089.3	1083.5	1076.2	1066.0	1055.9	1042.8	1031.1	1019.5	1013.6
15°	1085.0	1083.5	1080.6	1073.3	1064.5	1051.5	1041.2	1026.7	1010.7	996.1	990.3
17.5°	1070.4	1070.4	1066.0	1058.7	1047.1	1032.5	1016.5	1000.4	983.1	967.0	959.7
20°	1051.5	1051.5	1045.6	1036.9	1025.3	1006.4	988.9	969.9	949.5	933.5	926.2
22.5°	1023.8	1025.3	1017.9	1007.8	994.7	972.8	955.3	932.0	911.7	892.8	886.9
25°	987.3	990.3	983.1	972.8	955.3	936.4	914.5	892.8	869.5	850.4	841.7
27.5°	945.1	946.7	939.3	929.2	911.7	891.2	869.5	846.1	824.3	803.9	795.1
30°	898.6	892.8	889.8	876.7	857.8	840.3	815.6	796.5	773.3	755.8	745.6
32.5°	833.0	835.9	827.2	817.0	802.5	782.0	761.7	739.8	717.9	704.8	697.6
35°	767.5	770.4	766.1	755.8	739.8	722.3	702.0	685.9	667.0	650.9	643.7
37.5°	699.0	699.0	696.1	690.3	678.6	662.6	642.2	626.2	610.1	597.1	592.8
40°	630.6	627.6	626.2	621.9	611.7	597.1	584.0	570.9	554.8	546.1	540.3
42.5°	563.6	563.6	560.6	556.4	546.1	538.9	525.8	511.2	499.5	490.8	490.8
45°	502.5	503.9	499.5	496.6	490.8	479.2	467.5	457.3	447.0	441.2	438.4
47.5°	448.6	448.6	444.2	441.2	435.4	425.3	415.0	406.3	399.0	394.7	393.3
50°	397.6	397.6	397.6	390.3	383.0	375.8	368.4	358.3	353.9	350.9	349.5
52.5°	353.9	352.5	352.5	346.6	339.4	330.6	323.3	314.5	310.2	307.3	308.7
55°	314.5	314.5	313.1	305.8	298.6	289.8	282.5	275.3	272.3	269.4	270.9
56°	298.6	298.6	297.0	291.2	282.5	275.3	266.5	259.2	254.8	256.3	256.3
57°	286.9	284.0	284.0	276.7	269.4	259.2	251.9	244.7	241.7	240.3	240.3
58°	272.3	270.9	269.4	262.2	254.8	246.1	238.9	231.6	227.2	227.2	225.8
59°	257.8	257.8	254.8	249.0	241.7	233.0	225.8	218.4	214.1	212.6	212.6
60°	244.7	246.1	241.7	235.9	230.1	219.9	211.2	205.3	200.9	199.5	199.5
61°	233.0	233.0	230.1	222.8	215.5	208.3	199.5	192.2	189.4	186.4	186.4
62°	222.8	219.9	218.4	211.2	203.9	195.1	187.8	180.6	176.2	173.3	174.7
63°	209.7	208.3	205.3	199.5	192.2	183.4	174.7	168.9	164.5	160.2	161.7
64°	199.5	198.1	193.7	187.8	180.6	171.9	163.1	157.3	154.4	150.0	148.6
65°	186.4	185.0	183.4	176.2	168.9	160.2	153.0	147.0	142.7	139.8	136.9
66°	174.7	176.2	173.3	167.5	158.7	151.4	141.2	135.5	132.5	128.1	125.3
67°	164.5	164.5	161.7	155.8	147.0	139.8	132.5	125.3	120.9	116.5	115.0
67.5°	158.7	158.7	155.8	148.6	142.7	134.0	126.7	120.9	115.0	112.2	109.2
68°	153.0	153.0	151.4	145.6	138.3	129.7	122.3	115.0	109.2	104.8	103.4
69°	142.7	144.2	141.2	135.5	128.1	119.4	112.2	106.3	100.5	96.1	93.3
70°	134.0	132.5	129.7	123.8	116.5	110.6	103.4	96.1	90.3	84.5	83.0
71°	122.3	122.3	119.4	115.0	107.8	100.5	93.3	87.3	81.6	74.2	72.8
72°	113.6	113.6	110.6	104.8	99.1	91.7	84.5	77.2	72.8	65.5	62.6
72.5°	107.8	109.2	106.3	100.5	94.7	85.9	80.1	74.2	67.0	61.1	58.3
73°	104.8	103.4	101.9	96.1	88.9	83.0	75.8	69.9	62.6	56.9	53.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	65.5	65.5	64.1	58.3	52.5	46.6	40.8	35.0	29.1	23.3	20.3
80°	45.2	46.6	43.7	40.8	36.4	30.6	24.7	20.3	14.5	11.7	8.7
82.5°	29.1	29.1	27.7	24.7	21.9	17.5	14.5	10.2	7.3	5.8	4.4
85°	14.5	16.1	14.5	13.1	10.2	8.7	7.3	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°	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8	1074.8
2.5°	1070.4	1070.4	1067.5	1066.0	1064.5	1063.1	1061.7	1060.3	1060.3	1061.7
5°	1061.7	1058.7	1052.9	1051.5	1047.1	1045.6	1042.8	1041.2	1042.8	1041.2
7.5°	1048.6	1042.8	1035.4	1032.5	1026.7	1023.8	1019.5	1019.5	1016.5	1017.9
10°	1031.1	1022.3	1013.6	1007.8	1003.4	999.0	996.1	993.2	991.7	991.7
12.5°	1009.2	999.0	990.3	981.5	974.3	971.4	965.6	965.6	962.6	961.2
15°	984.5	971.4	961.2	952.5	946.7	940.8	936.4	933.5	930.6	930.6
17.5°	952.5	940.8	930.6	920.4	911.7	907.3	902.9	898.6	898.6	895.6
20°	917.5	904.3	895.6	885.4	878.1	870.9	865.1	865.1	862.2	863.6
22.5°	878.1	862.2	853.4	846.1	838.9	833.0	827.2	827.2	825.7	824.3
25°	834.5	821.4	811.2	802.5	798.1	792.3	790.8	787.9	786.4	786.4
27.5°	787.9	777.6	764.5	760.1	754.4	751.5	751.5	750.0	747.1	748.6
30°	738.4	726.7	719.4	716.5	710.7	710.7	709.2	706.4	706.4	707.8
32.5°	690.3	678.6	672.8	671.4	665.6	665.6	664.0	665.6	665.6	667.0
35°	637.9	627.6	626.2	621.9	620.4	620.4	620.4	623.3	626.2	621.9
37.5°	588.4	581.1	576.7	575.3	576.7	576.7	578.1	582.5	581.1	579.7
40°	537.3	531.5	528.6	528.6	531.5	534.5	534.5	538.9	540.3	538.9
42.5°	486.4	482.0	482.0	483.4	486.4	487.8	492.2	496.6	498.1	499.5
45°	438.4	438.4	438.4	439.8	441.2	444.2	450.0	454.4	455.8	457.3
47.5°	391.7	390.3	394.7	396.1	400.5	402.0	406.3	412.2	413.6	415.0
50°	348.1	350.9	352.5	356.8	359.7	359.7	365.6	368.4	372.8	372.8
52.5°	307.3	311.7	313.1	317.5	318.9	320.4	323.3	327.7	330.6	330.6
55°	270.9	272.3	275.3	276.7	281.1	282.5	285.5	286.9	291.2	289.8
56°	254.8	257.8	259.2	262.2	265.0	266.5	269.4	270.9	273.8	275.3
57°	240.3	241.7	246.1	247.6	250.5	250.5	251.9	256.3	256.3	257.8
58°	225.8	228.6	230.1	231.6	234.5	235.9	238.9	240.3	241.7	240.3
59°	212.6	214.1	215.5	215.5	218.4	218.4	222.8	225.8	227.2	227.2
60°	199.5	199.5	200.9	202.5	205.3	206.8	206.8	209.7	209.7	209.7
61°	186.4	186.4	187.8	189.4	190.8	190.8	193.7	193.7	195.1	196.6
62°	174.7	173.3	173.3	174.7	174.7	177.7	179.1	180.6	182.0	180.6
63°	161.7	160.2	160.2	160.2	160.2	163.1	163.1	164.5	167.5	166.1
64°	147.0	147.0	147.0	147.0	148.6	148.6	151.4	153.0	154.4	155.8
65°	136.9	134.0	132.5	132.5	134.0	135.5	136.9	138.3	139.8	139.8
66°	125.3	122.3	120.9	120.9	120.9	120.9	123.8	123.8	126.7	126.7
67°	112.2	109.2	107.8	106.3	106.3	106.3	110.6	109.2	109.2	109.2
67.5°	107.8	103.4	101.9	100.5	99.1	101.9	100.5	101.9	101.9	100.5
68°	101.9	99.1	96.1	93.3	93.3	93.3	94.7	96.1	94.7	93.3
69°	90.3	88.9	84.5	81.6	80.1	81.6	80.1	81.6	80.1	81.6
70°	80.1	75.8	71.4	69.9	68.4	68.4	68.4	67.0	68.4	67.0
71°	69.9	65.5	61.1	58.3	56.9	56.9	55.3	56.9	55.3	56.9
72°	59.7	55.3	49.5	46.6	46.6	46.6	46.6	45.2	46.6	45.2
72.5°	55.3	49.5	45.2	42.2	40.8	40.8	40.8	40.8	39.4	40.8
73°	50.9	45.2	39.4	37.8	37.8	37.8	36.4	35.0	36.4	36.4



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	17.5	13.1	11.7	11.7	11.7	11.7	11.7	11.7	10.2	10.2
80°	7.3	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°	94.7	94.7	91.7	87.3	80.1	72.8	67.0	61.1	53.9	46.6	43.7
75°	87.3	85.9	83.0	78.6	72.8	65.5	59.7	52.5	46.6	39.4	36.4





74°	42.2	35.0	32.0	29.1	29.1	29.1	27.7	27.7	27.7	29.1
75°	33.5	27.7	24.7	21.9	23.3	21.9	23.3	21.9	21.9	21.9



(END OF REPORT)