

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: P584073

Luminaire Tested: **HC820D010-HM80520935-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584073
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-HM80520935-81RWWH
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: 1913.2 lumens
Efficiency: N/A
Efficacy: 95.7 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

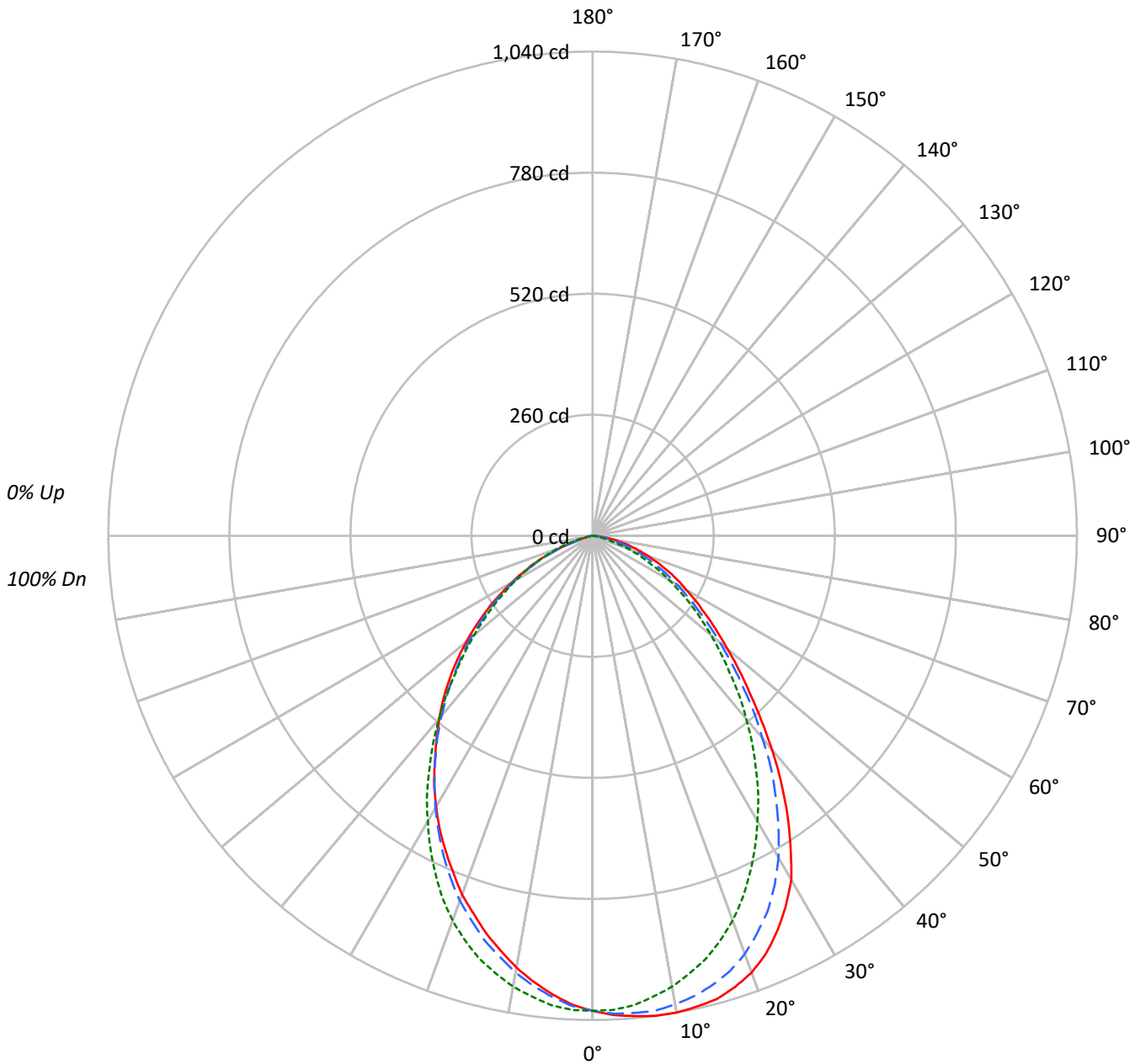
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

Luminous Intensity Polar Plot





TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

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°	31468	31468	31468
5°	32062	31335	30604
10°	32561	30789	29490
15°	32888	30021	28211
20°	32763	28861	26912
25°	31901	27195	25409
30°	30383	25210	23931
35°	27435	23008	22229
40°	24104	20654	20598
45°	20806	18154	18939
50°	18110	15922	16982
55°	16059	13827	14795
60°	14333	11687	12285
65°	12922	9485	9682
70°	11468	7105	5734
75°	9889	4110	2466
80°	7618	1474	728
85°	4883	495	495



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	5.0
10°-20°	266.7	13.9
20°-30°	377.2	19.7
30°-40°	397.5	20.8
40°-50°	337.8	17.7
50°-60°	243.3	12.7
60°-70°	140.3	7.3
70°-80°	48.0	2.5
80°-90°	6.6	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°	739.7	38.7
0°-40°	1137.2	59.4
0°-60°	1718.3	89.8
0°-90°	1913.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1913.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1020	1020	1020	1020	1020	
5°	1036	1029	1012	994	989	99
15°	1030	998	940	899	884	290
25°	938	889	799	758	747	430
35°	729	686	611	589	590	454
45°	477	455	416	419	434	371
55°	299	275	257	267	275	269
65°	177	152	130	127	133	176
75°	83	62	34	22	21	88
85°	14	8	1	1	1	19
90°	0	0	0	0	0	



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5
2.5°	1030.2	1031.6	1030.2	1030.2	1028.9	1027.5	1026.1	1024.8	1022.0	1019.2	1019.2
5°	1035.8	1038.5	1035.8	1035.8	1031.6	1028.9	1026.1	1022.0	1016.4	1012.3	1012.3
7.5°	1039.9	1039.9	1039.9	1035.8	1033.1	1028.9	1022.0	1015.1	1008.1	1001.3	998.4
10°	1039.9	1039.9	1038.5	1033.1	1030.2	1022.0	1015.1	1005.4	995.7	986.0	983.3
12.5°	1035.8	1037.2	1034.4	1028.9	1022.0	1012.3	1002.6	990.2	979.1	968.1	962.5
15°	1030.2	1028.9	1026.1	1019.2	1011.0	998.4	988.7	974.9	959.8	946.0	940.4
17.5°	1016.4	1016.4	1012.3	1005.4	994.3	980.5	965.2	950.1	933.4	918.3	911.3
20°	998.4	998.4	992.9	984.6	973.6	955.6	939.0	921.0	901.6	886.5	879.5
22.5°	972.2	973.6	966.6	956.9	944.5	923.7	907.2	885.1	865.7	847.7	842.2
25°	937.6	940.4	933.4	923.7	907.2	889.2	868.4	847.7	825.6	807.7	799.3
27.5°	897.5	898.9	891.9	882.2	865.7	846.3	825.6	803.5	782.7	763.3	755.1
30°	853.3	847.7	845.0	832.5	814.5	798.0	774.4	756.5	734.4	717.7	708.0
32.5°	791.0	793.8	785.4	775.9	762.0	742.7	723.3	702.5	681.8	669.4	662.4
35°	728.8	731.5	727.4	717.7	702.5	685.9	666.5	651.4	633.3	618.2	611.2
37.5°	663.8	663.8	661.0	655.5	644.4	629.2	609.9	594.7	579.4	567.0	562.9
40°	598.8	596.1	594.7	590.5	580.8	567.0	554.6	542.1	526.9	518.5	513.1
42.5°	535.2	535.2	532.4	528.2	518.5	511.7	499.3	485.4	474.3	466.1	466.1
45°	477.1	478.5	474.3	471.6	466.1	455.0	444.0	434.3	424.6	419.0	416.3
47.5°	426.0	426.0	421.7	419.0	413.5	403.8	394.1	385.8	378.9	374.8	373.4
50°	377.5	377.5	377.5	370.7	363.7	356.8	349.9	340.2	336.0	333.3	331.9
52.5°	336.0	334.6	334.6	329.2	322.2	313.9	307.0	298.7	294.6	291.8	293.1
55°	298.7	298.7	297.3	290.4	283.4	275.2	268.3	261.3	258.6	255.8	257.2
56°	283.4	283.4	282.1	276.6	268.3	261.3	253.1	246.2	242.0	243.4	243.4
57°	272.5	269.6	269.6	262.8	255.8	246.2	239.2	232.4	229.5	228.1	228.1
58°	258.6	257.2	255.8	248.9	242.0	233.7	226.8	219.9	215.7	215.7	214.3
59°	244.8	244.8	242.0	236.5	229.5	221.3	214.3	207.4	203.3	201.9	201.9
60°	232.4	233.7	229.5	224.0	218.6	208.9	200.5	195.0	190.9	189.5	189.5
61°	221.3	221.3	218.6	211.6	204.7	197.7	189.5	182.5	179.8	177.1	177.1
62°	211.6	208.9	207.4	200.5	193.6	185.3	178.4	171.5	167.4	164.5	166.0
63°	199.2	197.7	195.0	189.5	182.5	174.2	166.0	160.4	156.3	152.1	153.5
64°	189.5	188.1	183.9	178.4	171.5	163.2	154.8	149.4	146.6	142.4	141.0
65°	177.1	175.6	174.2	167.4	160.4	152.1	145.1	139.7	135.6	132.7	130.0
66°	166.0	167.4	164.5	159.0	150.7	143.8	134.2	128.6	125.9	121.7	118.9
67°	156.3	156.3	153.5	148.0	139.7	132.7	125.9	118.9	114.8	110.6	109.2
67.5°	150.7	150.7	148.0	141.0	135.6	127.2	120.3	114.8	109.2	106.5	103.7
68°	145.1	145.1	143.8	138.3	131.3	123.0	116.2	109.2	103.7	99.5	98.2
69°	135.6	136.9	134.2	128.6	121.7	113.4	106.5	100.9	95.4	91.3	88.5
70°	127.2	125.9	123.0	117.5	110.6	105.1	98.2	91.3	85.7	80.3	78.8
71°	116.2	116.2	113.4	109.2	102.4	95.4	88.5	83.0	77.4	70.6	69.1
72°	107.9	107.9	105.1	99.5	94.1	87.1	80.3	73.3	69.1	62.2	59.5
72.5°	102.4	103.7	100.9	95.4	89.8	81.6	76.0	70.6	63.6	58.0	55.3
73°	99.5	98.2	96.8	91.3	84.4	78.8	71.9	66.4	59.5	53.9	51.2



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	62.2	62.2	60.9	55.3	49.8	44.2	38.8	33.2	27.7	22.1	19.4
80°	42.9	44.2	41.5	38.8	34.5	29.1	23.5	19.4	13.8	11.1	8.3
82.5°	27.7	27.7	26.2	23.5	20.7	16.5	13.8	9.7	6.9	5.6	4.1
85°	13.8	15.2	13.8	12.4	9.7	8.3	6.9	4.1	2.7	1.4	1.4
87.5°	5.6	5.6	5.6	4.1	4.1	2.7	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



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5	1020.5
2.5°	1016.4	1016.4	1013.7	1012.3	1011.0	1009.5	1008.1	1006.7	1006.7	1008.1
5°	1008.1	1005.4	999.9	998.4	994.3	992.9	990.2	988.7	990.2	988.7
7.5°	995.7	990.2	983.3	980.5	974.9	972.2	968.1	968.1	965.2	966.6
10°	979.1	970.8	962.5	956.9	952.8	948.7	946.0	943.1	941.8	941.8
12.5°	958.4	948.7	940.4	932.1	925.2	922.4	916.9	916.9	914.2	912.7
15°	934.8	922.4	912.7	904.5	898.9	893.4	889.2	886.5	883.7	883.7
17.5°	904.5	893.4	883.7	874.0	865.7	861.6	857.4	853.3	853.3	850.4
20°	871.3	858.8	850.4	840.8	833.9	826.9	821.5	821.5	818.7	820.1
22.5°	833.9	818.7	810.4	803.5	796.5	791.0	785.4	785.4	784.1	782.7
25°	792.4	780.0	770.3	762.0	757.8	752.3	750.9	748.2	746.8	746.8
27.5°	748.2	738.5	726.0	721.8	716.3	713.6	713.6	712.2	709.4	710.9
30°	701.2	690.1	683.2	680.4	674.8	674.8	673.5	670.7	670.7	672.1
32.5°	655.5	644.4	638.9	637.6	632.0	632.0	630.6	632.0	632.0	633.3
35°	605.7	596.1	594.7	590.5	589.1	589.1	589.1	591.8	594.7	590.5
37.5°	558.7	551.8	547.6	546.2	547.6	547.6	549.0	553.2	551.8	550.3
40°	510.3	504.7	502.0	502.0	504.7	507.6	507.6	511.7	513.1	511.7
42.5°	461.9	457.8	457.8	459.1	461.9	463.2	467.5	471.6	472.9	474.3
45°	416.3	416.3	416.3	417.6	419.0	421.7	427.3	431.4	432.8	434.3
47.5°	372.0	370.7	374.8	376.1	380.2	381.7	385.8	391.4	392.8	394.1
50°	330.5	333.3	334.6	338.8	341.6	341.6	347.2	349.9	354.0	354.0
52.5°	291.8	296.0	297.3	301.5	302.8	304.2	307.0	311.1	313.9	313.9
55°	257.2	258.6	261.3	262.8	266.9	268.3	271.0	272.5	276.6	275.2
56°	242.0	244.8	246.2	248.9	251.6	253.1	255.8	257.2	260.0	261.3
57°	228.1	229.5	233.7	235.1	237.8	237.8	239.2	243.4	243.4	244.8
58°	214.3	217.1	218.6	219.9	222.7	224.0	226.8	228.1	229.5	228.1
59°	201.9	203.3	204.7	204.7	207.4	207.4	211.6	214.3	215.7	215.7
60°	189.5	189.5	190.9	192.2	195.0	196.3	196.3	199.2	199.2	199.2
61°	177.1	177.1	178.4	179.8	181.2	181.2	183.9	183.9	185.3	186.6
62°	166.0	164.5	164.5	166.0	166.0	168.7	170.1	171.5	172.8	171.5
63°	153.5	152.1	152.1	152.1	152.1	154.8	154.8	156.3	159.0	157.7
64°	139.7	139.7	139.7	139.7	141.0	141.0	143.8	145.1	146.6	148.0
65°	130.0	127.2	125.9	125.9	127.2	128.6	130.0	131.3	132.7	132.7
66°	118.9	116.2	114.8	114.8	114.8	114.8	117.5	117.5	120.3	120.3
67°	106.5	103.7	102.4	100.9	100.9	100.9	105.1	103.7	103.7	103.7
67.5°	102.4	98.2	96.8	95.4	94.1	96.8	95.4	96.8	96.8	95.4
68°	96.8	94.1	91.3	88.5	88.5	88.5	89.8	91.3	89.8	88.5
69°	85.7	84.4	80.3	77.4	76.0	77.4	76.0	77.4	76.0	77.4
70°	76.0	71.9	67.7	66.4	65.0	65.0	65.0	63.6	65.0	63.6
71°	66.4	62.2	58.0	55.3	53.9	53.9	52.6	53.9	52.6	53.9
72°	56.7	52.6	47.0	44.2	44.2	44.2	44.2	42.9	44.2	42.9
72.5°	52.6	47.0	42.9	40.1	38.8	38.8	38.8	38.8	37.4	38.8
73°	48.3	42.9	37.4	35.9	35.9	35.9	34.5	33.2	34.5	34.5



TEST NUMBER: P584073

CATALOG NUMBER: HC820D010-HM80520935-81RWWH

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	16.5	12.4	11.1	11.1	11.1	11.1	11.1	11.1	9.7	9.7
80°	6.9	5.6	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
82.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	89.8	89.8	87.1	83.0	76.0	69.1	63.6	58.0	51.2	44.2	41.5
75°	83.0	81.6	78.8	74.7	69.1	62.2	56.7	49.8	44.2	37.4	34.5





74°	40.1	33.2	30.4	27.7	27.7	27.7	26.2	26.2	26.2	27.7
75°	31.8	26.2	23.5	20.7	22.1	20.7	22.1	20.7	20.7	20.7



(END OF REPORT)