

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: P583788

Luminaire Tested: **HC810D010-HM80520930-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583788
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: HC810D010-HM80520930-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 969.1 lumens
Efficiency: N/A
Efficacy: 97.9 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

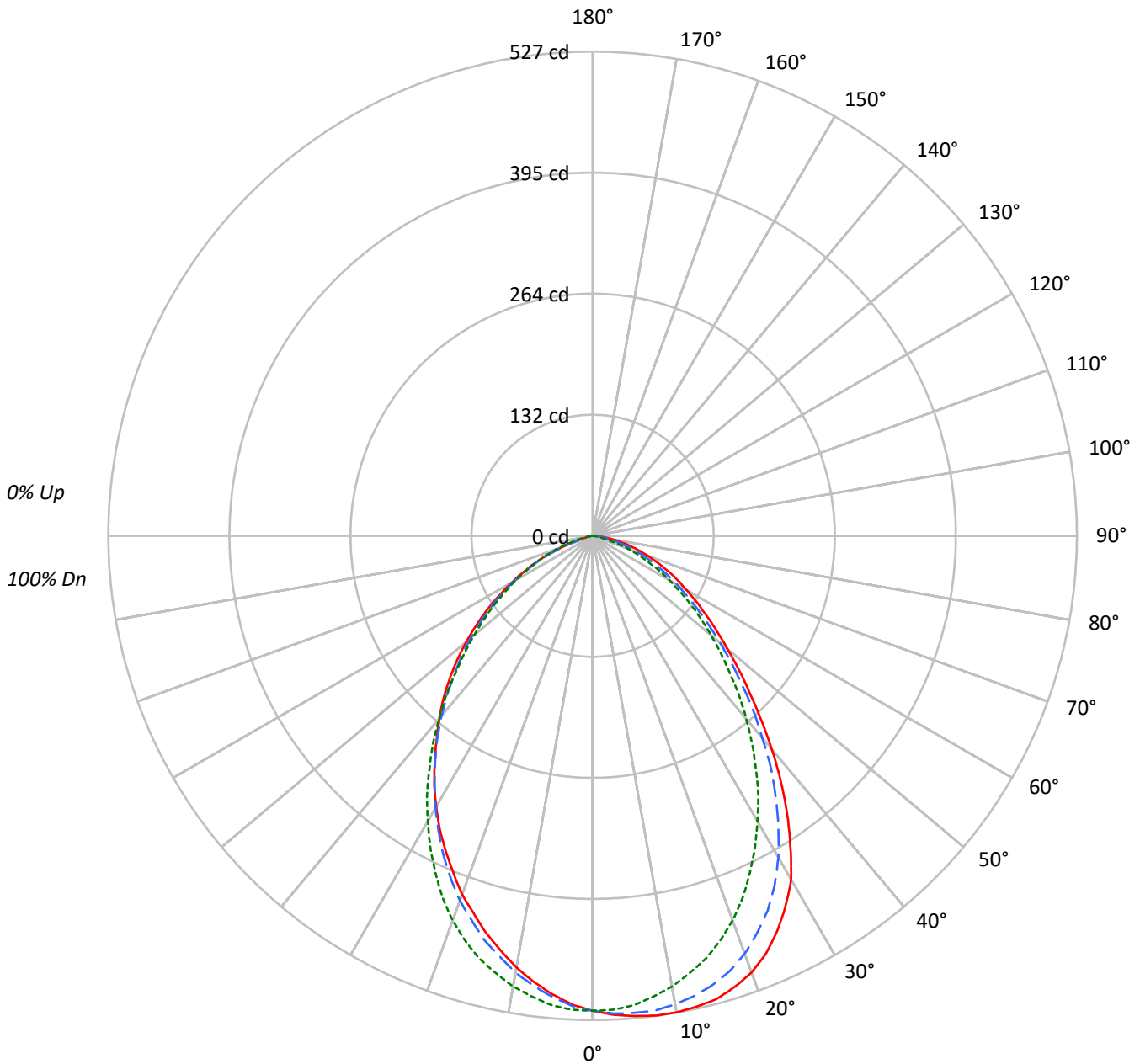
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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								
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°	15942	15942	15942
5°	16242	15873	15505
10°	16492	15597	14939
15°	16661	15209	14289
20°	16598	14619	13631
25°	16158	13773	12871
30°	15389	12772	12121
35°	13894	11655	11259
40°	12209	10462	10434
45°	10540	9193	9594
50°	9172	8069	8602
55°	8134	7005	7494
60°	7259	5914	6217
65°	6545	4808	4903
70°	5806	3597	2903
75°	5016	2085	1251
80°	3871	746	355
85°	2477	248	248



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.5	5.0
10°-20°	135.1	13.9
20°-30°	191.1	19.7
30°-40°	201.3	20.8
40°-50°	171.1	17.7
50°-60°	123.2	12.7
60°-70°	71.1	7.3
70°-80°	24.3	2.5
80°-90°	3.3	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°	374.7	38.7
0°-40°	576.1	59.4
0°-60°	870.4	89.8
0°-90°	969.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	969.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	517	517	517	517	517	
5°	525	521	513	504	501	50
15°	522	506	476	455	448	147
25°	475	450	405	384	378	218
35°	369	348	310	298	299	230
45°	242	230	211	212	220	188
55°	151	139	130	135	139	136
65°	90	77	66	64	67	89
75°	42	32	18	11	10	44
85°	7	4	1	1	1	9
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°	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0
2.5°	521.9	522.6	521.9	521.9	521.2	520.5	519.7	519.0	517.7	516.3	516.3
5°	524.7	526.1	524.7	524.7	522.6	521.2	519.7	517.7	514.8	512.8	512.8
7.5°	526.7	526.7	526.7	524.7	523.2	521.2	517.7	514.2	510.6	507.1	505.8
10°	526.7	526.7	526.1	523.2	521.9	517.7	514.2	509.3	504.4	499.4	498.1
12.5°	524.7	525.4	524.0	521.2	517.7	512.8	507.8	501.6	495.9	490.3	487.5
15°	521.9	521.2	519.7	516.3	512.1	505.8	500.9	493.9	486.1	479.1	476.4
17.5°	514.8	514.8	512.8	509.3	503.6	496.7	489.0	481.3	472.9	465.2	461.7
20°	505.8	505.8	502.9	498.7	493.2	484.0	475.6	466.5	456.8	449.1	445.5
22.5°	492.5	493.2	489.7	484.8	478.4	467.9	459.5	448.3	438.5	429.4	426.6
25°	474.9	476.4	472.9	467.9	459.5	450.4	439.9	429.4	418.2	409.0	404.8
27.5°	454.6	455.3	451.8	446.9	438.5	428.8	418.2	407.0	396.5	386.7	382.5
30°	432.2	429.4	428.0	421.7	412.6	404.2	392.3	383.2	372.0	363.6	358.7
32.5°	400.6	402.1	397.9	392.9	386.0	376.2	366.4	355.9	345.3	339.1	335.6
35°	369.1	370.6	368.4	363.6	355.9	347.5	337.6	329.9	320.8	313.1	309.6
37.5°	336.2	336.2	334.9	332.0	326.5	318.8	308.9	301.2	293.5	287.2	285.1
40°	303.3	301.9	301.2	299.1	294.2	287.2	280.9	274.5	266.8	262.6	259.9
42.5°	271.1	271.1	269.7	267.6	262.6	259.2	252.9	245.9	240.3	236.1	236.1
45°	241.7	242.3	240.3	238.8	236.1	230.4	224.9	220.0	215.0	212.3	210.8
47.5°	215.8	215.8	213.6	212.3	209.5	204.6	199.7	195.4	192.0	189.8	189.1
50°	191.2	191.2	191.2	187.8	184.3	180.8	177.2	172.4	170.2	168.8	168.2
52.5°	170.2	169.5	169.5	166.7	163.2	159.0	155.5	151.3	149.2	147.8	148.4
55°	151.3	151.3	150.6	147.1	143.6	139.4	135.9	132.3	131.0	129.6	130.3
56°	143.6	143.6	142.9	140.2	135.9	132.3	128.1	124.6	122.6	123.3	123.3
57°	138.0	136.5	136.5	133.1	129.6	124.6	121.2	117.7	116.2	115.6	115.6
58°	131.0	130.3	129.6	126.1	122.6	118.4	114.9	111.4	109.3	109.3	108.5
59°	124.0	124.0	122.6	119.8	116.2	112.0	108.5	105.1	103.0	102.3	102.3
60°	117.7	118.4	116.2	113.5	110.7	105.8	101.6	98.8	96.6	95.9	95.9
61°	112.0	112.0	110.7	107.2	103.7	100.1	95.9	92.4	91.1	89.7	89.7
62°	107.2	105.8	105.1	101.6	98.1	93.9	90.4	86.9	84.7	83.4	84.0
63°	100.8	100.1	98.8	95.9	92.4	88.2	84.0	81.3	79.2	77.0	77.8
64°	95.9	95.3	93.2	90.4	86.9	82.7	78.5	75.6	74.3	72.1	71.4
65°	89.7	88.9	88.2	84.7	81.3	77.0	73.6	70.8	68.6	67.2	65.9
66°	84.0	84.7	83.4	80.5	76.3	72.8	67.9	65.1	63.7	61.7	60.2
67°	79.2	79.2	77.8	75.0	70.8	67.2	63.7	60.2	58.2	56.0	55.3
67.5°	76.3	76.3	75.0	71.4	68.6	64.4	60.9	58.2	55.3	54.0	52.5
68°	73.6	73.6	72.8	70.1	66.6	62.4	58.9	55.3	52.5	50.5	49.8
69°	68.6	69.4	67.9	65.1	61.7	57.5	54.0	51.1	48.3	46.3	44.8
70°	64.4	63.7	62.4	59.5	56.0	53.2	49.8	46.3	43.4	40.6	39.9
71°	58.9	58.9	57.5	55.3	51.8	48.3	44.8	42.1	39.2	35.7	35.0
72°	54.7	54.7	53.2	50.5	47.6	44.1	40.6	37.1	35.0	31.5	30.2
72.5°	51.8	52.5	51.1	48.3	45.6	41.3	38.6	35.7	32.2	29.4	28.0
73°	50.5	49.8	49.0	46.3	42.7	39.9	36.4	33.7	30.2	27.3	26.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	31.5	31.5	30.8	28.0	25.2	22.4	19.6	16.8	14.1	11.2	9.9
80°	21.8	22.4	21.0	19.6	17.5	14.7	11.9	9.9	7.0	5.6	4.2
82.5°	14.1	14.1	13.3	11.9	10.5	8.4	7.0	4.9	3.5	2.8	2.0
85°	7.0	7.7	7.0	6.3	4.9	4.2	3.5	2.0	1.4	0.7	0.7
87.5°	2.8	2.8	2.8	2.0	2.0	1.4	0.7	0.7	0.7	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°	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0	517.0
2.5°	514.8	514.8	513.5	512.8	512.1	511.3	510.6	510.0	510.0	510.6
5°	510.6	509.3	506.4	505.8	503.6	502.9	501.6	500.9	501.6	500.9
7.5°	504.4	501.6	498.1	496.7	493.9	492.5	490.3	490.3	489.0	489.7
10°	495.9	491.7	487.5	484.8	482.6	480.6	479.1	477.8	477.1	477.1
12.5°	485.5	480.6	476.4	472.1	468.7	467.2	464.5	464.5	463.0	462.3
15°	473.6	467.2	462.3	458.1	455.3	452.6	450.4	449.1	447.6	447.6
17.5°	458.1	452.6	447.6	442.7	438.5	436.4	434.3	432.2	432.2	430.8
20°	441.3	435.0	430.8	425.9	422.4	418.9	416.1	416.1	414.7	415.4
22.5°	422.4	414.7	410.5	407.0	403.5	400.6	397.9	397.9	397.1	396.5
25°	401.3	395.1	390.2	386.0	383.9	381.0	380.3	379.0	378.3	378.3
27.5°	379.0	374.1	367.8	365.6	362.9	361.4	361.4	360.7	359.4	360.0
30°	355.2	349.5	346.1	344.6	341.8	341.8	341.1	339.7	339.7	340.4
32.5°	332.0	326.5	323.6	323.0	320.1	320.1	319.4	320.1	320.1	320.8
35°	306.9	301.9	301.2	299.1	298.5	298.5	298.5	299.8	301.2	299.1
37.5°	283.0	279.5	277.4	276.7	277.4	277.4	278.1	280.2	279.5	278.7
40°	258.4	255.7	254.2	254.2	255.7	257.1	257.1	259.2	259.9	259.2
42.5°	233.9	231.9	231.9	232.6	233.9	234.6	236.8	238.8	239.6	240.3
45°	210.8	210.8	210.8	211.6	212.3	213.6	216.5	218.5	219.2	220.0
47.5°	188.5	187.8	189.8	190.5	192.7	193.3	195.4	198.2	198.9	199.7
50°	167.4	168.8	169.5	171.6	173.0	173.0	175.9	177.2	179.3	179.3
52.5°	147.8	149.9	150.6	152.7	153.4	154.1	155.5	157.6	159.0	159.0
55°	130.3	131.0	132.3	133.1	135.2	135.9	137.3	138.0	140.2	139.4
56°	122.6	124.0	124.6	126.1	127.5	128.1	129.6	130.3	131.7	132.3
57°	115.6	116.2	118.4	119.1	120.4	120.4	121.2	123.3	123.3	124.0
58°	108.5	110.0	110.7	111.4	112.7	113.5	114.9	115.6	116.2	115.6
59°	102.3	103.0	103.7	103.7	105.1	105.1	107.2	108.5	109.3	109.3
60°	95.9	95.9	96.6	97.4	98.8	99.5	99.5	100.8	100.8	100.8
61°	89.7	89.7	90.4	91.1	91.7	91.7	93.2	93.2	93.9	94.6
62°	84.0	83.4	83.4	84.0	84.0	85.5	86.2	86.9	87.5	86.9
63°	77.8	77.0	77.0	77.0	77.0	78.5	78.5	79.2	80.5	79.8
64°	70.8	70.8	70.8	70.8	71.4	71.4	72.8	73.6	74.3	75.0
65°	65.9	64.4	63.7	63.7	64.4	65.1	65.9	66.6	67.2	67.2
66°	60.2	58.9	58.2	58.2	58.2	58.2	59.5	59.5	60.9	60.9
67°	54.0	52.5	51.8	51.1	51.1	51.1	53.2	52.5	52.5	52.5
67.5°	51.8	49.8	49.0	48.3	47.6	49.0	48.3	49.0	49.0	48.3
68°	49.0	47.6	46.3	44.8	44.8	44.8	45.6	46.3	45.6	44.8
69°	43.4	42.7	40.6	39.2	38.6	39.2	38.6	39.2	38.6	39.2
70°	38.6	36.4	34.4	33.7	32.9	32.9	32.9	32.2	32.9	32.2
71°	33.7	31.5	29.4	28.0	27.3	27.3	26.6	27.3	26.6	27.3
72°	28.7	26.6	23.8	22.4	22.4	22.4	22.4	21.8	22.4	21.8
72.5°	26.6	23.8	21.8	20.3	19.6	19.6	19.6	19.6	18.9	19.6
73°	24.5	21.8	18.9	18.3	18.3	18.3	17.5	16.8	17.5	17.5



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	8.4	6.3	5.6	5.6	5.6	5.6	5.6	5.6	4.9	4.9
80°	3.5	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	45.6	45.6	44.1	42.1	38.6	35.0	32.2	29.4	26.0	22.4	21.0
75°	42.1	41.3	39.9	37.9	35.0	31.5	28.7	25.2	22.4	18.9	17.5





74°	20.3	16.8	15.4	14.1	14.1	14.1	13.3	13.3	13.3	14.1
75°	16.1	13.3	11.9	10.5	11.2	10.5	11.2	10.5	10.5	10.5



(END OF REPORT)