

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: P583703

Luminaire Tested: **HC810D010-HM80520827-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583703  
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-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: 1077.8 lumens  
Efficiency: N/A  
Efficacy: 108.9 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

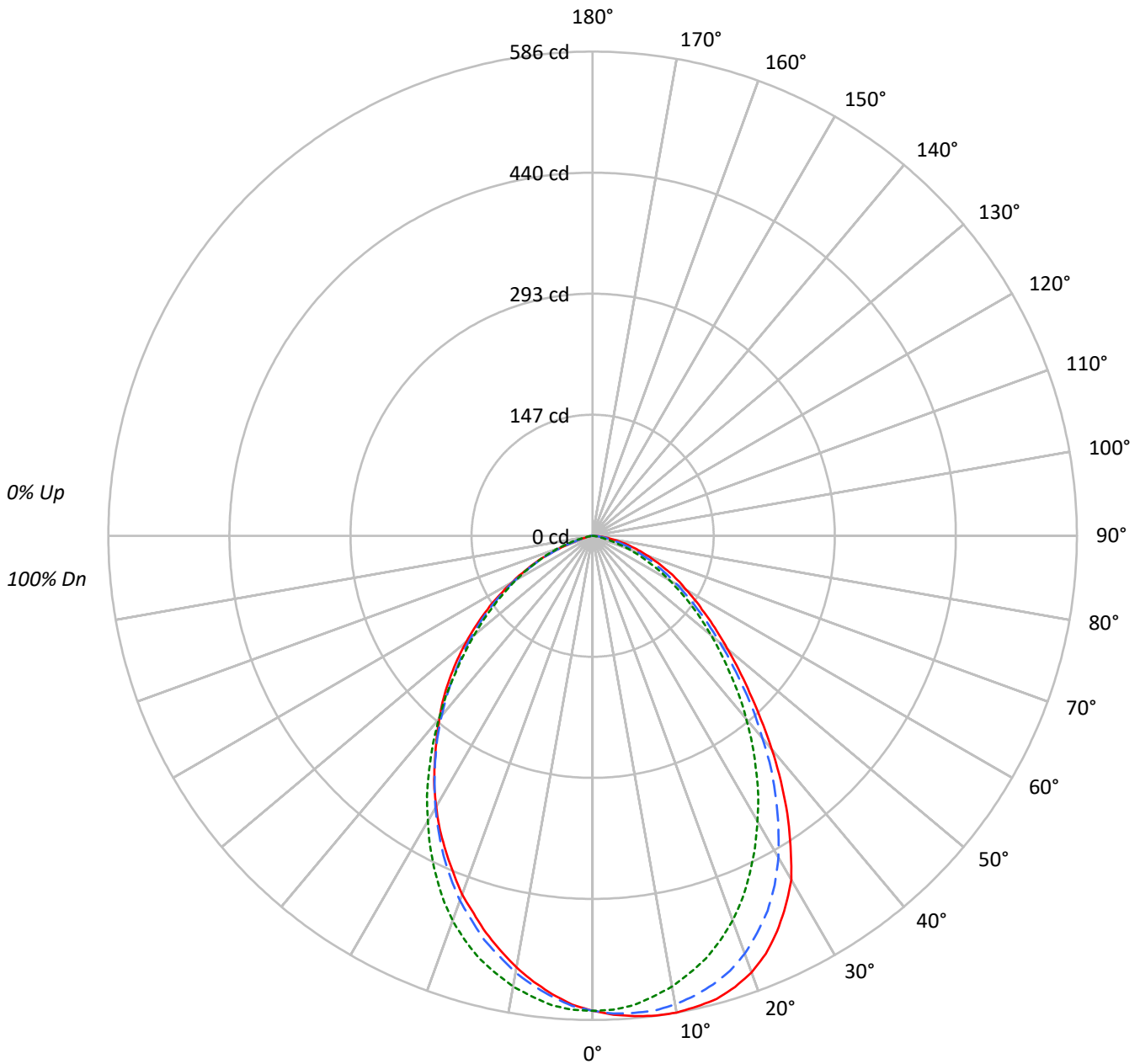
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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°	17728	17728	17728
5°	18062	17650	17241
10°	18346	17344	16614
15°	18526	16910	15889
20°	18455	16260	15157
25°	17972	15321	14314
30°	17116	14200	13481
35°	15457	12965	12520
40°	13578	11637	11601
45°	11722	10226	10667
50°	10199	8966	9566
55°	9048	7785	8338
60°	8073	6580	6914
65°	7282	5341	5458
70°	6455	4003	3228
75°	5576	2323	1394
80°	4297	835	408
85°	2760	248	248



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.0	5.0
10°-20°	150.2	13.9
20°-30°	212.5	19.7
30°-40°	223.9	20.8
40°-50°	190.3	17.7
50°-60°	137.0	12.7
60°-70°	79.1	7.3
70°-80°	27.1	2.5
80°-90°	3.7	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°	416.7	38.7
0°-40°	640.6	59.4
0°-60°	968.0	89.8
0°-90°	1077.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1077.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	575	575	575	575	575	
5°	584	580	570	560	557	56
15°	580	562	530	506	498	163
25°	528	501	450	427	421	242
35°	411	386	344	332	333	256
45°	269	256	234	236	245	209
55°	168	155	145	150	155	151
65°	100	86	73	72	75	99
75°	47	35	20	12	12	49
85°	8	5	1	1	1	10
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°	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9
2.5°	580.3	581.2	580.3	580.3	579.6	578.8	578.0	577.3	575.8	574.2	574.2
5°	583.5	585.0	583.5	583.5	581.2	579.6	578.0	575.8	572.6	570.2	570.2
7.5°	585.9	585.9	585.9	583.5	581.9	579.6	575.8	571.8	567.9	564.0	562.4
10°	585.9	585.9	585.0	581.9	580.3	575.8	571.8	566.4	560.9	555.4	553.9
12.5°	583.5	584.3	582.7	579.6	575.8	570.2	564.8	557.8	551.6	545.3	542.2
15°	580.3	579.6	578.0	574.2	569.5	562.4	557.0	549.2	540.7	532.8	529.7
17.5°	572.6	572.6	570.2	566.4	560.1	552.3	543.8	535.3	525.9	517.2	513.4
20°	562.4	562.4	559.3	554.7	548.5	538.3	529.0	518.8	508.0	499.3	495.5
22.5°	547.6	548.5	544.5	539.1	532.1	520.3	511.1	498.6	487.7	477.6	474.4
25°	528.2	529.7	525.9	520.3	511.1	500.9	489.2	477.6	465.1	455.0	450.3
27.5°	505.6	506.4	502.4	497.0	487.7	476.7	465.1	452.7	440.9	430.1	425.4
30°	480.7	477.6	476.0	469.0	458.8	449.5	436.2	426.1	413.6	404.4	398.8
32.5°	445.6	447.1	442.5	437.0	429.2	418.3	407.5	395.7	384.0	377.1	373.1
35°	410.6	412.2	409.8	404.4	395.7	386.4	375.5	367.0	356.8	348.2	344.4
37.5°	373.9	373.9	372.4	369.3	363.0	354.5	343.5	335.0	326.5	319.4	317.1
40°	337.3	335.7	335.0	332.6	327.2	319.4	312.4	305.4	296.8	292.1	289.1
42.5°	301.5	301.5	299.9	297.6	292.1	288.2	281.3	273.5	267.2	262.5	262.5
45°	268.8	269.5	267.2	265.6	262.5	256.3	250.0	244.6	239.2	236.1	234.5
47.5°	239.9	239.9	237.6	236.1	232.9	227.4	222.0	217.3	213.5	211.1	210.4
50°	212.6	212.6	212.6	208.8	204.9	201.0	197.1	191.6	189.3	187.8	186.9
52.5°	189.3	188.5	188.5	185.5	181.5	176.8	173.0	168.3	165.9	164.4	165.2
55°	168.3	168.3	167.4	163.6	159.7	155.1	151.1	147.2	145.7	144.1	144.8
56°	159.7	159.7	158.9	155.8	151.1	147.2	142.6	138.7	136.3	137.1	137.1
57°	153.5	151.9	151.9	148.0	144.1	138.7	134.7	130.9	129.3	128.5	128.5
58°	145.7	144.8	144.1	140.3	136.3	131.6	127.8	123.9	121.5	121.5	120.8
59°	137.9	137.9	136.3	133.2	129.3	124.6	120.8	116.8	114.6	113.7	113.7
60°	130.9	131.6	129.3	126.2	123.1	117.7	113.0	109.9	107.5	106.7	106.7
61°	124.6	124.6	123.1	119.2	115.3	111.4	106.7	102.9	101.3	99.8	99.8
62°	119.2	117.7	116.8	113.0	109.0	104.3	100.5	96.6	94.2	92.7	93.5
63°	112.1	111.4	109.9	106.7	102.9	98.2	93.5	90.4	88.0	85.7	86.4
64°	106.7	105.9	103.6	100.5	96.6	92.0	87.3	84.1	82.6	80.3	79.5
65°	99.8	98.9	98.2	94.2	90.4	85.7	81.9	78.7	76.3	74.8	73.2
66°	93.5	94.2	92.7	89.5	84.9	81.0	75.6	72.5	70.9	68.5	67.0
67°	88.0	88.0	86.4	83.3	78.7	74.8	70.9	67.0	64.7	62.3	61.5
67.5°	84.9	84.9	83.3	79.5	76.3	71.6	67.8	64.7	61.5	60.0	58.4
68°	81.9	81.9	81.0	77.9	74.0	69.4	65.4	61.5	58.4	56.1	55.3
69°	76.3	77.2	75.6	72.5	68.5	63.8	60.0	56.9	53.7	51.4	49.9
70°	71.6	70.9	69.4	66.2	62.3	59.3	55.3	51.4	48.3	45.2	44.4
71°	65.4	65.4	63.8	61.5	57.7	53.7	49.9	46.8	43.6	39.8	38.9
72°	60.8	60.8	59.3	56.1	53.0	49.0	45.2	41.3	38.9	35.1	33.5
72.5°	57.7	58.4	56.9	53.7	50.6	45.9	42.8	39.8	35.8	32.7	31.1
73°	56.1	55.3	54.6	51.4	47.5	44.4	40.5	37.4	33.5	30.4	28.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	35.1	35.1	34.3	31.1	28.0	24.9	21.8	18.8	15.6	12.5	10.9
80°	24.2	24.9	23.3	21.8	19.5	16.3	13.2	10.9	7.8	6.3	4.7
82.5°	15.6	15.6	14.8	13.2	11.7	9.4	7.8	5.4	3.8	3.1	2.3
85°	7.8	8.5	7.8	7.0	5.4	4.7	3.8	2.3	1.6	0.7	0.7
87.5°	3.1	3.1	3.1	2.3	2.3	1.6	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°	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9	574.9
2.5°	572.6	572.6	571.1	570.2	569.5	568.7	567.9	567.1	567.1	567.9
5°	567.9	566.4	563.3	562.4	560.1	559.3	557.8	557.0	557.8	557.0
7.5°	560.9	557.8	553.9	552.3	549.2	547.6	545.3	545.3	543.8	544.5
10°	551.6	546.9	542.2	539.1	536.8	534.4	532.8	531.3	530.6	530.6
12.5°	539.8	534.4	529.7	525.0	521.2	519.6	516.5	516.5	514.9	514.2
15°	526.6	519.6	514.2	509.5	506.4	503.3	500.9	499.3	497.7	497.7
17.5°	509.5	503.3	497.7	492.3	487.7	485.4	483.0	480.7	480.7	479.1
20°	490.8	483.8	479.1	473.7	469.7	465.9	462.8	462.8	461.2	461.9
22.5°	469.7	461.2	456.5	452.7	448.7	445.6	442.5	442.5	441.7	440.9
25°	446.4	439.3	433.9	429.2	427.0	423.8	423.0	421.4	420.7	420.7
27.5°	421.4	416.0	409.0	406.6	403.5	401.9	401.9	401.2	399.7	400.4
30°	395.0	388.7	384.9	383.3	380.2	380.2	379.4	377.8	377.8	378.6
32.5°	369.3	363.0	359.9	359.2	356.0	356.0	355.2	356.0	356.0	356.8
35°	341.2	335.7	335.0	332.6	331.9	331.9	331.9	333.4	335.0	332.6
37.5°	314.7	310.8	308.6	307.7	308.6	308.6	309.3	311.6	310.8	310.1
40°	287.5	284.4	282.8	282.8	284.4	286.0	286.0	288.2	289.1	288.2
42.5°	260.2	257.8	257.8	258.7	260.2	261.0	263.4	265.6	266.5	267.2
45°	234.5	234.5	234.5	235.2	236.1	237.6	240.8	243.0	243.9	244.6
47.5°	209.5	208.8	211.1	211.9	214.2	215.0	217.3	220.4	221.3	222.0
50°	186.2	187.8	188.5	190.9	192.4	192.4	195.6	197.1	199.4	199.4
52.5°	164.4	166.7	167.4	169.8	170.6	171.4	173.0	175.3	176.8	176.8
55°	144.8	145.7	147.2	148.0	150.4	151.1	152.7	153.5	155.8	155.1
56°	136.3	137.9	138.7	140.3	141.8	142.6	144.1	144.8	146.4	147.2
57°	128.5	129.3	131.6	132.5	134.0	134.0	134.7	137.1	137.1	137.9
58°	120.8	122.4	123.1	123.9	125.4	126.2	127.8	128.5	129.3	128.5
59°	113.7	114.6	115.3	115.3	116.8	116.8	119.2	120.8	121.5	121.5
60°	106.7	106.7	107.5	108.3	109.9	110.6	110.6	112.1	112.1	112.1
61°	99.8	99.8	100.5	101.3	102.0	102.0	103.6	103.6	104.3	105.2
62°	93.5	92.7	92.7	93.5	93.5	95.1	95.8	96.6	97.4	96.6
63°	86.4	85.7	85.7	85.7	85.7	87.3	87.3	88.0	89.5	88.8
64°	78.7	78.7	78.7	78.7	79.5	79.5	81.0	81.9	82.6	83.3
65°	73.2	71.6	70.9	70.9	71.6	72.5	73.2	74.0	74.8	74.8
66°	67.0	65.4	64.7	64.7	64.7	64.7	66.2	66.2	67.8	67.8
67°	60.0	58.4	57.7	56.9	56.9	56.9	59.3	58.4	58.4	58.4
67.5°	57.7	55.3	54.6	53.7	53.0	54.6	53.7	54.6	54.6	53.7
68°	54.6	53.0	51.4	49.9	49.9	49.9	50.6	51.4	50.6	49.9
69°	48.3	47.5	45.2	43.6	42.8	43.6	42.8	43.6	42.8	43.6
70°	42.8	40.5	38.2	37.4	36.7	36.7	36.7	35.8	36.7	35.8
71°	37.4	35.1	32.7	31.1	30.4	30.4	29.6	30.4	29.6	30.4
72°	32.0	29.6	26.4	24.9	24.9	24.9	24.9	24.2	24.9	24.2
72.5°	29.6	26.4	24.2	22.6	21.8	21.8	21.8	21.8	21.0	21.8
73°	27.3	24.2	21.0	20.3	20.3	20.3	19.5	18.8	19.5	19.5





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	9.4	7.0	6.3	6.3	6.3	6.3	6.3	6.3	5.4	5.4
80°	3.8	3.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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°	50.6	50.6	49.0	46.8	42.8	38.9	35.8	32.7	28.8	24.9	23.3
75°	46.8	45.9	44.4	42.1	38.9	35.1	32.0	28.0	24.9	21.0	19.5







74°	22.6	18.8	17.2	15.6	15.6	15.6	14.8	14.8	14.8	15.6
75°	17.9	14.8	13.2	11.7	12.5	11.7	12.5	11.7	11.7	11.7



(END OF REPORT)