

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: HALO

Report Number: P645616

Luminaire Tested: LCR408WW9FSE020-8W-6500K

Issue Date: 3/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P645616  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: LCR408WW9FSE020-8W-6500K  
Description: LCR 4 Wall Wash  
Light Source: 6500K CCT, 93 CRI LEDS  
Ballast/Driver: -

**Summary**

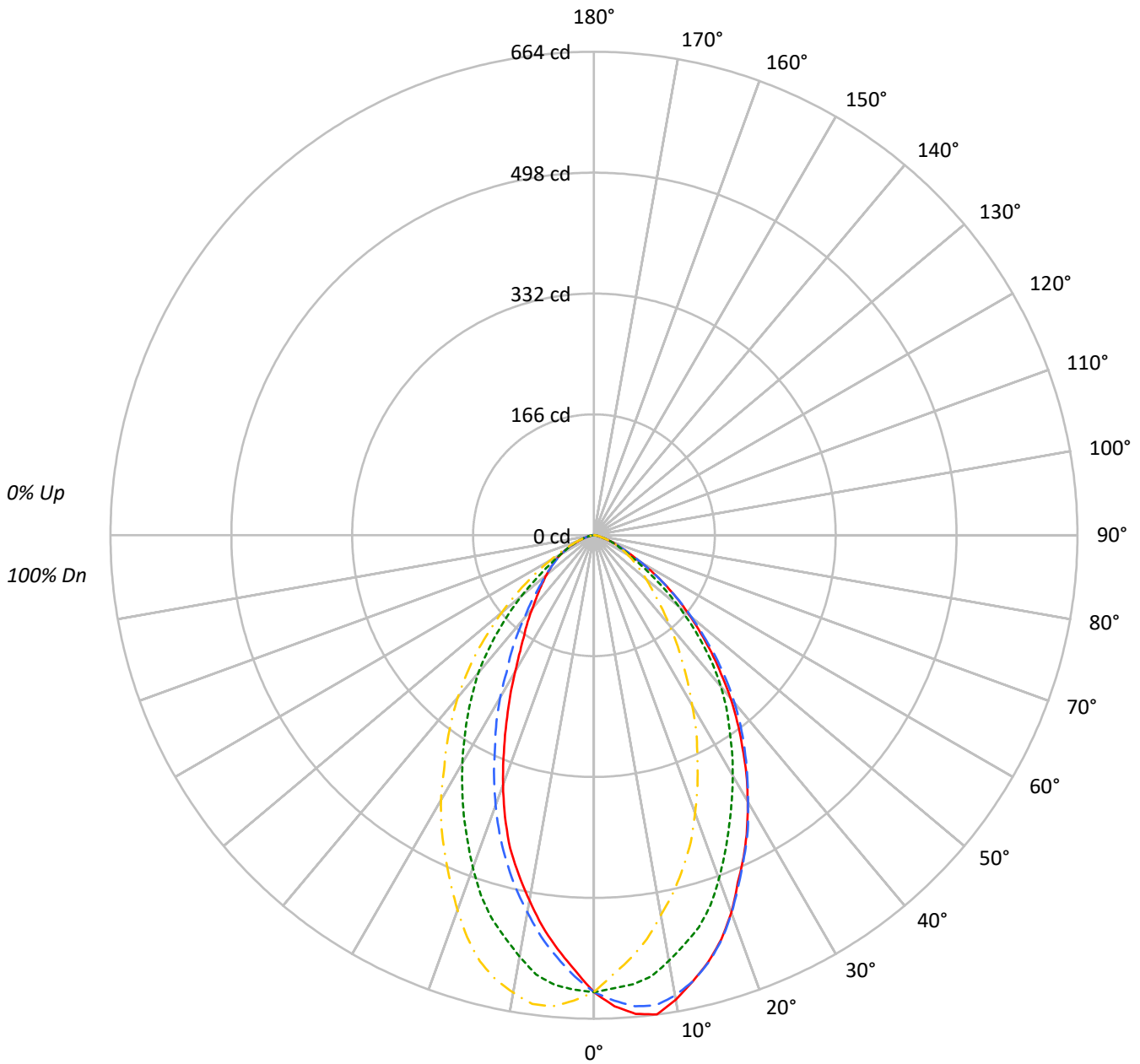
Lumens per Lamp: N/A  
Luminaire Lumens: 850.1 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Spacing Criteria (0/90/45): 0.87 / 0.95 / 0.99  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.1  
Input Voltage (V): 120  
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: 24 FT



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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    ··· 90°-270°    - · 135°-315°



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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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	100	
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	92	90	
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	82	80	
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	73	71	
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	65	64	
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	63	59	59	57	
6	79	68	60	55	77	67	60	55	65	59	55	64	58	54	62	58	54	54	52	
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	49	47	
8	70	58	51	46	68	57	51	46	56	50	45	55	49	45	54	49	45	45	43	
9	66	54	47	42	64	54	47	42	52	46	42	51	46	42	51	45	42	42	40	
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	39	37	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	77399	77399	77399	77399
5°	81707	76643	70637	76754
10°	81098	74310	63827	73596
15°	77461	71153	56825	69454
20°	72391	65893	47924	63780
25°	66252	59787	38692	57583
30°	60133	54308	30736	51459
35°	53545	48817	25056	45535
40°	47001	43635	21125	39803
45°	39807	36824	18403	32341
50°	33025	29014	16426	24812
55°	26171	21053	14731	17784
60°	18304	14777	12902	13124
65°	12200	11091	10536	10536
70°	8583	8583	7898	8223
75°	4527	5004	5433	5433
80°	3410	4049	4759	4759
85°	2689	2689	4104	4104

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 41464 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.9	6.8
10°-20°	149.9	17.6
20°-30°	187.3	22.0
30°-40°	177.7	20.9
40°-50°	137.8	16.2
50°-60°	83.9	9.9
60°-70°	39.5	4.6
70°-80°	13.1	1.5
80°-90°	3.1	0.4
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°	395.0	46.5
0°-40°	572.7	67.4
0°-60°	794.4	93.5
0°-90°	850.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	850.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	628	628	628	628	628	
5°	660	619	570	620	660	63
15°	607	557	445	544	607	170
25°	487	439	284	423	487	223
35°	356	324	166	302	356	222
45°	228	211	106	185	228	176
55°	122	98	68	83	122	109
65°	42	38	36	36	42	44
75°	10	10	11	11	10	12
85°	2	2	3	3	2	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	647.5	643.7	639.9	632.3	622.8	613.3	603.8	599.0	598.1	598.1	606.6
5°	659.9	657.0	649.4	636.1	619.0	600.9	582.9	572.4	570.5	570.5	581.9
7.5°	663.7	661.8	651.3	633.3	610.4	582.9	559.1	545.8	542.0	542.0	556.2
10°	647.5	648.5	641.8	620.9	593.3	555.3	529.6	515.3	509.6	509.6	525.8
12.5°	627.5	628.5	627.5	606.6	575.3	530.6	503.0	483.0	477.3	478.3	496.3
15°	606.6	610.4	607.6	588.6	557.2	504.9	472.6	453.5	445.0	445.9	464.0
17.5°	581.9	583.8	582.9	566.7	532.5	475.4	442.1	417.4	406.0	408.9	430.7
20°	551.5	555.3	552.4	537.2	502.0	445.0	406.0	376.5	365.1	368.9	394.6
22.5°	516.3	521.1	519.2	506.8	470.7	413.6	371.8	334.7	323.3	328.0	358.5
25°	486.8	490.6	487.8	474.5	439.3	382.2	335.6	297.6	284.3	290.0	321.4
27.5°	455.4	459.3	457.3	444.0	409.8	352.8	304.3	262.4	249.1	255.8	290.0
30°	422.2	426.9	423.1	412.7	381.3	324.2	270.0	232.0	215.8	222.5	257.7
32.5°	389.8	393.6	391.7	382.2	352.8	295.7	239.6	201.6	188.3	195.9	223.4
35°	355.6	361.3	361.3	353.7	324.2	266.2	211.1	175.9	166.4	170.2	198.7
37.5°	323.3	329.9	330.9	327.1	298.6	240.6	186.4	155.9	149.3	151.2	174.0
40°	291.9	297.6	300.5	297.6	271.0	209.2	160.7	137.9	131.2	133.1	149.3
42.5°	258.6	265.3	268.1	268.1	242.5	184.5	140.7	121.7	117.0	117.9	130.3
45°	228.2	233.0	236.8	237.7	211.1	157.8	121.7	108.4	105.5	105.5	113.1
47.5°	198.7	201.6	203.5	205.4	180.7	134.1	106.5	97.0	94.1	94.1	97.9
50°	172.1	174.0	175.0	172.1	151.2	112.2	93.2	87.5	85.6	84.6	87.5
52.5°	146.4	147.4	147.4	144.5	123.6	93.2	81.8	78.0	76.1	76.1	77.0
55°	121.7	122.7	120.8	115.1	97.9	78.0	71.3	69.4	68.5	67.5	67.5
57.5°	97.0	97.0	96.0	92.2	76.1	65.6	62.8	60.9	60.9	59.0	59.0
60°	74.2	76.1	75.1	70.4	59.9	54.2	53.2	52.3	52.3	51.3	51.3
62.5°	56.1	57.0	57.0	53.2	47.5	45.6	45.6	44.7	44.7	42.8	43.7
65°	41.8	41.8	41.8	40.9	38.0	38.0	38.0	36.1	36.1	35.2	36.1
67.5°	31.4	32.3	32.3	32.3	30.4	30.4	30.4	28.5	27.6	27.6	29.5
70°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	21.9	21.9	20.9	22.8
72.5°	16.2	16.2	16.2	17.1	17.1	17.1	17.1	16.2	16.2	16.2	16.2
75°	9.5	9.5	9.5	10.5	10.5	10.5	10.5	10.5	11.4	10.5	11.4
77.5°	6.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6	8.6	8.6	8.6
80°	4.8	4.8	4.8	5.7	5.7	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	4.8	4.8	4.8
85°	1.9	1.9	1.9	1.9	1.9	2.9	2.9	2.9	2.9	2.9	2.9
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9
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):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	627.5	627.5	627.5	627.5	627.5	627.5
2.5°	614.2	624.7	633.3	639.9	645.6	647.5
5°	599.0	619.9	637.1	649.4	657.0	659.9
7.5°	580.0	608.5	632.3	649.4	659.9	663.7
10°	551.5	587.6	618.0	638.0	647.5	647.5
12.5°	524.9	565.7	601.9	624.7	629.4	627.5
15°	498.2	543.9	584.8	605.7	609.5	606.6
17.5°	468.8	517.3	562.9	579.1	583.8	581.9
20°	433.6	485.9	532.5	547.7	555.3	551.5
22.5°	399.3	453.5	499.2	515.3	523.9	516.3
25°	366.1	423.1	466.9	484.0	489.7	486.8
27.5°	333.7	391.7	433.6	453.5	458.3	455.4
30°	304.3	361.3	401.2	420.3	423.1	422.2
32.5°	272.9	330.9	368.9	383.2	388.9	389.8
35°	247.2	302.4	339.4	352.8	356.6	355.6
37.5°	214.9	273.8	309.0	321.4	323.3	323.3
40°	189.2	247.2	280.5	291.0	291.0	291.9
42.5°	164.5	215.8	250.1	258.6	259.6	258.6
45°	137.9	185.4	216.8	228.2	227.2	228.2
47.5°	116.0	156.9	184.5	194.9	195.9	198.7
50°	97.0	129.3	155.9	165.4	167.3	172.1
52.5°	81.8	103.6	126.5	137.9	143.6	146.4
55°	69.4	82.7	102.7	112.2	116.0	121.7
57.5°	59.0	65.6	79.9	89.4	95.1	97.0
60°	50.4	53.2	60.9	69.4	74.2	74.2
62.5°	42.8	43.7	48.5	53.2	57.0	56.1
65°	37.1	36.1	38.0	40.9	41.8	41.8
67.5°	29.5	29.5	30.4	31.4	32.3	31.4
70°	23.8	22.8	23.8	23.8	23.8	23.8
72.5°	17.1	16.2	17.1	17.1	16.2	16.2
75°	11.4	11.4	11.4	10.5	10.5	9.5
77.5°	8.6	8.6	8.6	7.6	7.6	6.7
80°	6.7	6.7	6.7	5.7	5.7	4.8
82.5°	4.8	4.8	4.8	3.8	3.8	3.8
85°	2.9	2.9	2.9	2.9	2.9	1.9
87.5°	1.9	1.9	1.9	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)