

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: P645615

Luminaire Tested: LCR408WW9FSE020-8W-5000K

Issue Date: 3/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P645615  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: LCR408WW9FSE020-8W-5000K  
Description: LCR 4 Wall Wash  
Light Source: 5000K CCT, 93 CRI LEDS  
Ballast/Driver: -

**Summary**

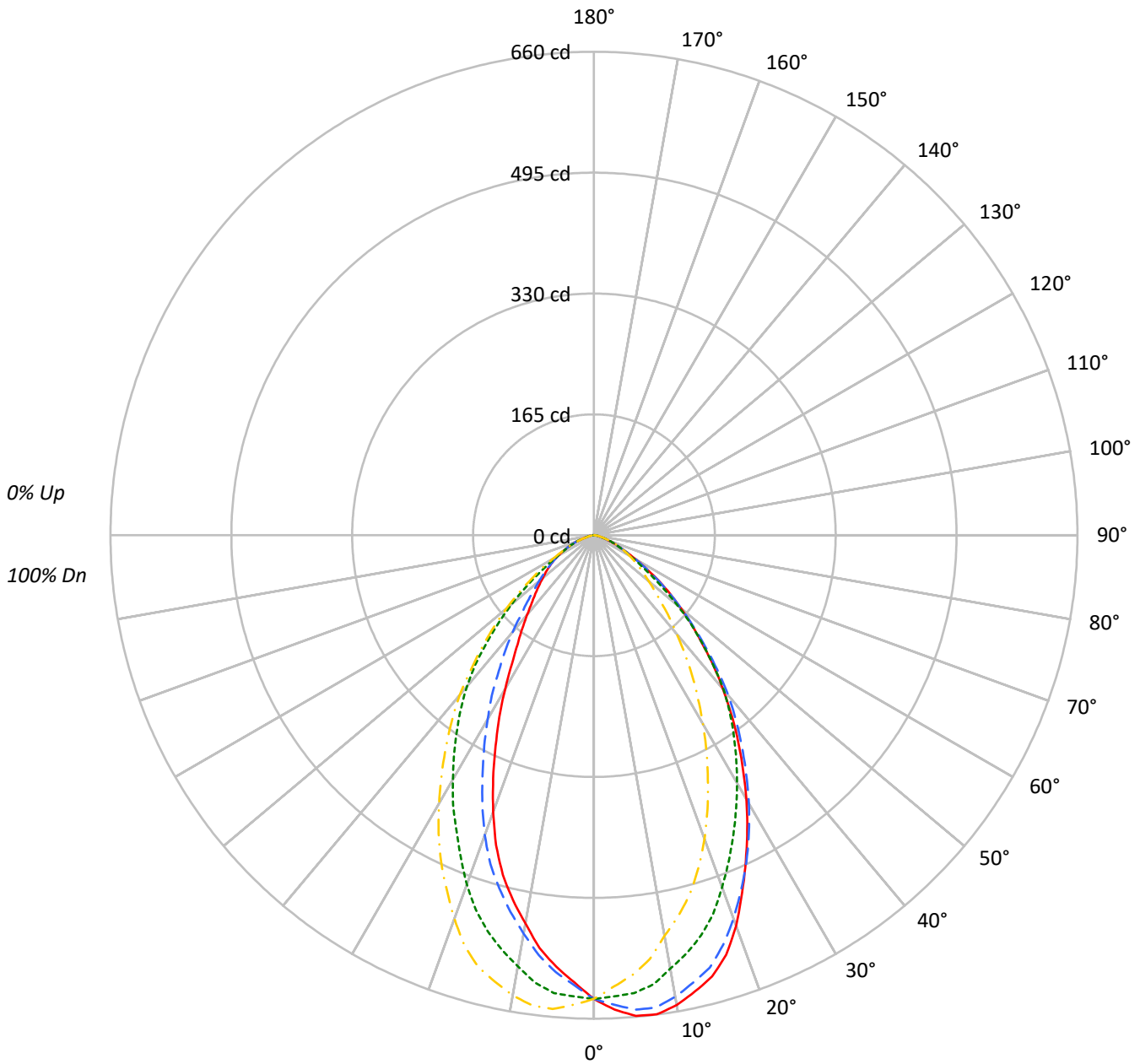
Lumens per Lamp: N/A  
Luminaire Lumens: 870.1 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 0.97 / 1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80
3	97	89	83	77	95	87	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	73	68	77	72	67	75	70	67	73	69	66	64
5	85	74	67	61	83	73	66	61	71	65	61	69	64	60	68	63	59	58
6	79	68	61	55	78	67	60	55	66	59	55	64	59	54	63	58	54	52
7	74	63	56	50	73	62	55	50	61	55	50	59	54	50	58	53	49	48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44
9	66	54	47	42	65	54	47	42	53	47	42	52	46	42	51	46	42	40
10	62	51	44	39	61	50	44	39	49	43	39	49	43	39	48	43	39	37

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

	0°	90°	180°	270°
0°	78078	78078	78078	78078
5°	81558	77670	73200	77670
10°	81549	75237	67384	74874
15°	79619	72213	61294	71485
20°	74478	67114	52767	66615
25°	66742	61312	43197	60413
30°	59292	55632	34524	54820
35°	51663	50097	27330	49088
40°	44070	44376	22800	43458
45°	36300	36475	19729	35969
50°	29724	28458	17501	28093
55°	23096	20429	15935	20236
60°	16183	14530	14061	14530
65°	11091	11091	11645	11383
70°	7898	8583	8583	8908
75°	4527	5004	5433	5433
80°	4049	4049	4759	4759
85°	2689	4104	4104	4104

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 38795 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.8	6.8
10°-20°	155.2	17.8
20°-30°	195.6	22.5
30°-40°	183.4	21.1
40°-50°	138.3	15.9
50°-60°	82.6	9.5
60°-70°	39.6	4.6
70°-80°	13.4	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°	409.7	47.1
0°-40°	593.0	68.2
0°-60°	814.0	93.6
0°-90°	870.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	870.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	633	633	633	633	633	
5°	659	627	591	627	659	63
15°	624	566	480	560	624	174
25°	490	450	317	444	490	225
35°	343	333	182	326	343	214
45°	208	209	113	206	208	162
55°	107	95	74	94	107	96
65°	38	38	40	39	38	40
75°	10	10	11	11	10	12
85°	2	3	3	3	2	3
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°	633.0	633.0	633.0	633.0	633.0	633.0	633.0	633.0	633.0	633.0	633.0
2.5°	648.2	645.4	641.6	636.8	630.1	622.5	616.8	613.0	611.1	610.2	614.9
5°	658.7	655.8	650.1	639.7	627.3	613.0	602.6	595.0	591.2	591.2	598.8
7.5°	659.6	657.7	650.1	636.8	618.7	598.8	583.6	572.2	568.4	567.4	577.9
10°	651.1	648.2	639.7	622.5	600.7	576.0	555.1	545.6	538.0	538.0	552.2
12.5°	637.8	637.8	625.4	609.2	584.5	554.1	532.3	517.0	510.4	511.3	526.5
15°	623.5	621.6	611.1	591.2	565.5	531.3	506.6	487.6	480.0	481.9	499.0
17.5°	600.7	599.7	586.4	567.4	541.8	504.7	475.2	455.3	443.9	446.7	470.5
20°	567.4	569.3	557.0	538.0	511.3	470.5	441.0	415.3	402.0	406.8	435.3
22.5°	528.4	533.2	524.6	507.5	480.9	439.1	404.9	370.7	359.3	365.9	398.2
25°	490.4	494.2	492.3	476.2	450.5	407.7	367.8	330.8	317.4	326.0	359.3
27.5°	453.4	456.2	458.1	443.9	420.1	377.3	332.7	294.6	279.4	291.8	324.1
30°	416.3	420.1	422.9	412.5	390.6	346.9	297.5	259.5	242.4	251.9	289.9
32.5°	378.3	381.1	386.8	380.2	361.2	318.4	264.2	227.2	208.1	218.6	259.5
35°	343.1	346.9	351.7	349.8	332.7	287.0	233.8	194.8	181.5	190.1	226.2
37.5°	307.9	312.7	318.4	319.4	304.1	260.4	203.4	171.1	160.6	167.3	198.6
40°	273.7	279.4	285.1	289.9	275.6	227.2	175.8	150.2	141.6	147.3	173.0
42.5°	241.4	245.2	249.0	256.6	241.4	195.8	152.1	131.2	125.5	130.2	147.3
45°	208.1	211.0	214.8	222.4	209.1	168.2	130.2	116.9	113.1	116.0	128.3
47.5°	181.5	181.5	183.4	192.0	179.6	139.7	112.2	104.5	101.7	103.6	111.2
50°	154.9	154.0	154.9	160.6	148.3	117.9	97.9	93.1	91.2	92.2	97.9
52.5°	130.2	129.3	129.3	132.1	119.8	96.9	85.5	83.6	82.7	82.7	86.5
55°	107.4	105.5	105.5	106.5	95.0	78.9	75.1	74.1	74.1	74.1	75.1
57.5°	84.6	84.6	83.6	81.7	74.1	66.5	65.6	64.6	65.6	64.6	65.6
60°	65.6	65.6	65.6	63.7	58.9	55.1	56.1	56.1	57.0	56.1	57.0
62.5°	50.4	49.4	50.4	49.4	47.5	46.6	47.5	47.5	48.5	48.5	48.5
65°	38.0	38.0	38.0	39.0	38.0	39.0	39.9	39.9	39.9	39.9	39.9
67.5°	29.5	29.5	29.5	30.4	30.4	31.4	32.3	31.4	31.4	31.4	32.3
70°	21.9	21.9	21.9	23.8	23.8	24.7	24.7	23.8	23.8	23.8	25.7
72.5°	16.2	15.2	15.2	16.2	17.1	17.1	18.1	17.1	18.1	17.1	18.1
75°	9.5	9.5	9.5	10.5	10.5	11.4	11.4	11.4	11.4	11.4	11.4
77.5°	7.6	6.7	7.6	7.6	7.6	8.6	8.6	8.6	8.6	8.6	8.6
80°	5.7	4.8	5.7	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	4.8	4.8	4.8	4.8	4.8	4.8	4.8
85°	1.9	1.9	1.9	2.9	2.9	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	1.0
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):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	633.0	633.0	633.0	633.0	633.0	633.0
2.5°	621.6	630.1	636.8	641.6	645.4	648.2
5°	612.1	627.3	639.7	649.2	655.8	658.7
7.5°	595.9	615.9	633.9	647.3	655.8	659.6
10°	572.2	597.8	620.6	637.8	648.2	651.1
12.5°	550.3	579.8	605.4	624.4	635.8	637.8
15°	527.5	559.8	588.3	610.2	620.6	623.5
17.5°	499.0	536.1	564.6	587.4	597.8	600.7
20°	465.7	507.5	536.1	557.0	567.4	567.4
22.5°	434.4	475.2	502.8	524.6	531.3	528.4
25°	401.1	443.9	471.4	493.3	494.2	490.4
27.5°	369.7	416.3	439.1	459.1	458.1	453.4
30°	339.3	384.9	406.8	422.9	420.1	416.3
32.5°	308.9	355.5	375.4	386.8	381.1	378.3
35°	279.4	326.0	344.1	351.7	346.9	343.1
37.5°	250.9	298.4	314.6	318.4	310.8	307.9
40°	219.6	269.9	284.2	285.1	277.5	273.7
42.5°	191.0	239.5	253.8	248.1	244.3	241.4
45°	162.5	206.2	219.6	214.8	209.1	208.1
47.5°	136.9	175.8	188.2	185.3	180.6	181.5
50°	114.1	146.4	157.8	155.9	153.0	154.9
52.5°	95.0	118.8	129.3	129.3	128.3	130.2
55°	79.8	94.1	103.6	103.6	105.5	107.4
57.5°	66.5	74.1	81.7	83.6	83.6	84.6
60°	56.1	58.9	63.7	65.6	65.6	65.6
62.5°	48.5	47.5	48.5	50.4	50.4	50.4
65°	39.0	39.0	38.0	39.0	38.0	38.0
67.5°	33.3	31.4	30.4	30.4	29.5	29.5
70°	25.7	24.7	23.8	22.8	21.9	21.9
72.5°	19.0	18.1	17.1	16.2	16.2	16.2
75°	12.4	11.4	10.5	10.5	10.5	9.5
77.5°	8.6	8.6	8.6	7.6	7.6	7.6
80°	6.7	6.7	6.7	5.7	5.7	5.7
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	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)