

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: P645613

Luminaire Tested: LCR408WW9FSE020-8W-3500K

Issue Date: 3/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P645613  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: LCR408WW9FSE020-8W-3500K  
Description: LCR 4 Wall Wash  
Light Source: 3500K CCT, 93 CRI LEDS  
Ballast/Driver: -

**Summary**

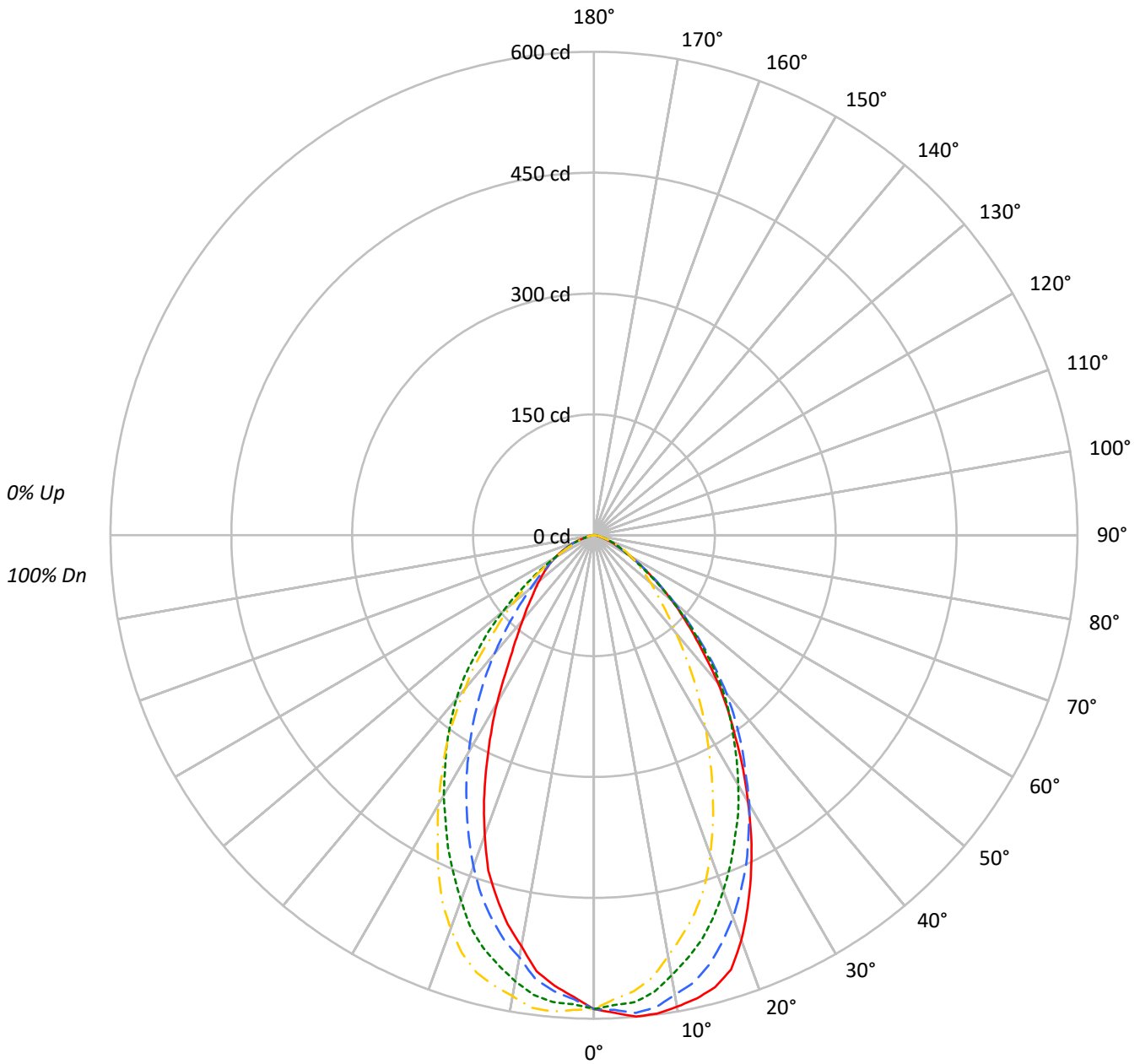
Lumens per Lamp: N/A  
Luminaire Lumens: 810.0 lumens  
Efficiency: N/A  
Efficacy: 100.0 lumens/watt  
Spacing Criteria (0/90/45): 0.92 / 0.99 / 1.01  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	98	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	69	66	64
5	85	74	67	62	83	73	67	61	71	65	61	70	64	60	68	63	60	58
6	79	68	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	70	59	51	46	69	58	51	46	57	51	46	56	50	46	55	49	46	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38

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

	0°	90°	180°	270°
0°	72515	72515	72515	72515
5°	74241	72012	69461	72012
10°	74423	69475	64866	70377
15°	74154	66249	59481	67730
20°	70212	61614	51953	63268
25°	62781	56317	42871	58263
30°	54450	51003	34254	53054
35°	46092	45279	26622	47974
40°	38580	39739	22108	42782
45°	30683	31939	18944	35847
50°	24293	24293	17059	28419
55°	17956	17182	15440	20644
60°	12853	12631	13716	14160
65°	9164	9952	11528	10478
70°	6780	7754	8403	8078
75°	4289	5147	5147	4718
80°	3196	4475	4475	4475
85°	2547	3821	3821	3821

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 270°

Vertical Angle: 45°

Luminance: 35847 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.7	6.8
10°-20°	146.0	18.0
20°-30°	185.7	22.9
30°-40°	172.1	21.2
40°-50°	126.8	15.7
50°-60°	73.9	9.1
60°-70°	35.7	4.4
70°-80°	12.3	1.5
80°-90°	2.9	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°	386.4	47.7
0°-40°	558.5	68.9
0°-60°	759.1	93.7
0°-90°	810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	810.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	588	588	588	588	588	
5°	600	582	561	582	600	57
15°	581	519	466	530	581	162
25°	461	414	315	428	461	211
35°	306	301	177	319	306	192
45°	176	183	109	206	176	137
55°	84	80	72	96	84	77
65°	31	34	40	36	31	33
75°	9	11	11	10	9	11
85°	2	3	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°	587.9	587.9	587.9	587.9	587.9	587.9	587.9	587.9	587.9	587.9	587.9
2.5°	593.3	592.4	589.7	587.9	583.4	579.8	576.2	575.3	573.5	573.5	576.2
5°	599.6	599.6	595.1	587.9	581.6	573.5	568.1	563.7	561.0	563.7	568.1
7.5°	598.7	596.0	590.6	581.6	571.7	561.9	553.8	545.7	545.7	546.6	555.6
10°	594.2	587.0	578.9	567.2	554.7	541.2	530.4	521.5	517.9	524.2	532.2
12.5°	588.8	581.6	569.0	553.8	537.6	522.4	508.0	497.2	494.5	499.0	514.3
15°	580.7	569.0	552.0	535.8	518.8	501.7	484.7	471.2	465.8	477.5	491.8
17.5°	565.4	552.0	529.5	514.3	495.4	474.8	456.8	438.9	436.2	446.1	466.7
20°	534.9	527.7	504.4	484.7	469.4	445.2	421.8	401.2	395.8	412.0	437.1
22.5°	499.0	496.3	476.6	457.7	442.5	413.8	385.9	361.7	356.3	376.1	405.7
25°	461.3	459.5	447.9	429.0	413.8	383.2	348.2	320.4	315.0	337.5	373.4
27.5°	422.7	423.6	415.6	400.3	387.7	355.4	311.4	281.8	276.4	300.7	342.9
30°	382.3	385.9	385.9	370.7	358.1	321.3	277.3	244.1	240.5	266.6	310.5
32.5°	344.7	349.1	350.0	340.2	329.4	292.6	244.1	210.9	204.6	233.4	280.0
35°	306.1	314.1	319.5	311.4	300.7	263.0	213.6	182.2	176.8	201.0	249.5
37.5°	272.8	280.9	287.2	283.6	274.6	233.4	184.0	157.1	155.3	175.0	220.8
40°	239.6	247.7	255.8	258.5	246.8	202.8	158.0	139.1	137.3	152.6	192.1
42.5°	204.6	210.0	221.7	227.1	216.3	174.1	137.3	122.1	123.0	132.8	165.1
45°	175.9	177.7	187.6	193.0	183.1	148.1	118.5	108.6	108.6	116.7	140.9
47.5°	149.9	149.9	158.0	165.1	154.4	123.9	104.1	97.8	98.7	103.2	120.3
50°	126.6	125.7	131.0	136.4	126.6	104.1	91.5	88.0	88.9	91.5	102.3
52.5°	104.1	102.3	105.9	109.5	102.3	87.1	79.9	79.0	79.9	81.7	88.0
55°	83.5	83.5	86.2	87.1	79.9	72.7	70.9	70.0	71.8	71.8	74.5
57.5°	67.3	66.4	67.3	67.3	62.8	61.9	61.9	61.9	63.7	63.7	64.6
60°	52.1	51.2	52.1	53.0	51.2	53.0	53.0	53.9	55.6	54.7	54.7
62.5°	40.4	39.5	40.4	41.3	41.3	44.0	45.8	46.7	47.6	46.7	46.7
65°	31.4	31.4	32.3	33.2	34.1	35.9	37.7	38.6	39.5	38.6	38.6
67.5°	25.1	25.1	26.0	26.9	27.8	30.5	30.5	30.5	31.4	30.5	31.4
70°	18.8	18.8	19.7	20.6	21.5	23.3	23.3	22.4	23.3	23.3	24.2
72.5°	13.5	13.5	14.4	15.3	16.2	17.1	17.1	16.2	17.1	17.1	17.1
75°	9.0	9.0	9.0	9.9	10.8	10.8	10.8	9.9	10.8	9.9	10.8
77.5°	6.3	6.3	7.2	7.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1
80°	4.5	4.5	5.4	5.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3
82.5°	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
85°	1.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	587.9	587.9	587.9	587.9	587.9	587.9
2.5°	578.9	582.5	587.9	589.7	591.5	593.3
5°	574.4	581.6	589.7	593.3	598.7	599.6
7.5°	564.5	575.3	583.4	591.5	596.9	598.7
10°	546.6	561.9	572.6	580.7	589.7	594.2
12.5°	530.4	546.6	559.2	572.6	585.2	588.8
15°	512.5	530.4	543.0	561.9	577.1	580.7
17.5°	490.1	509.8	520.6	543.9	560.1	565.4
20°	463.1	482.0	496.3	519.7	531.3	534.9
22.5°	433.5	455.0	471.2	491.8	495.4	499.0
25°	405.7	428.1	443.4	456.8	459.5	461.3
27.5°	377.9	398.5	411.1	420.0	421.8	422.7
30°	350.0	372.5	382.3	385.9	383.2	382.3
32.5°	323.1	343.8	350.0	350.9	344.7	344.7
35°	297.1	318.6	319.5	319.5	307.9	306.1
37.5°	271.1	291.7	290.8	283.6	274.6	272.8
40°	242.3	265.7	260.3	249.5	241.4	239.6
42.5°	214.5	237.8	228.9	219.0	206.4	204.6
45°	184.9	205.5	196.6	182.2	176.8	175.9
47.5°	154.4	177.7	167.8	157.1	150.8	149.9
50°	127.4	148.1	140.0	129.2	127.4	126.6
52.5°	105.0	120.3	114.9	109.5	106.8	104.1
55°	82.6	96.0	92.4	88.9	85.3	83.5
57.5°	66.4	74.5	72.7	70.9	68.2	67.3
60°	54.7	57.4	56.5	55.6	53.0	52.1
62.5°	44.9	44.9	43.1	43.1	41.3	40.4
65°	36.8	35.9	34.1	33.2	32.3	31.4
67.5°	30.5	28.7	26.9	26.0	25.1	25.1
70°	23.3	22.4	20.6	19.7	18.8	18.8
72.5°	16.2	16.2	14.4	14.4	13.5	13.5
75°	9.9	9.9	9.0	9.0	9.0	9.0
77.5°	8.1	8.1	7.2	7.2	6.3	6.3
80°	6.3	6.3	5.4	5.4	5.4	4.5
82.5°	4.5	4.5	3.6	3.6	3.6	3.6
85°	2.7	2.7	2.7	2.7	2.7	1.8
87.5°	0.9	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)