

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: P645614

Luminaire Tested: LCR408WW9FSE020-8W-4000K

Issue Date: 3/14/2023

Test Information

Test Method: LM-79-2019
Report Number: P645614
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/14/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: LCR408WW9FSE020-8W-4000K
Description: LCR 4 Wall Wash
Light Source: 4000K CCT, 93 CRI LEDS
Ballast/Driver: -

Summary

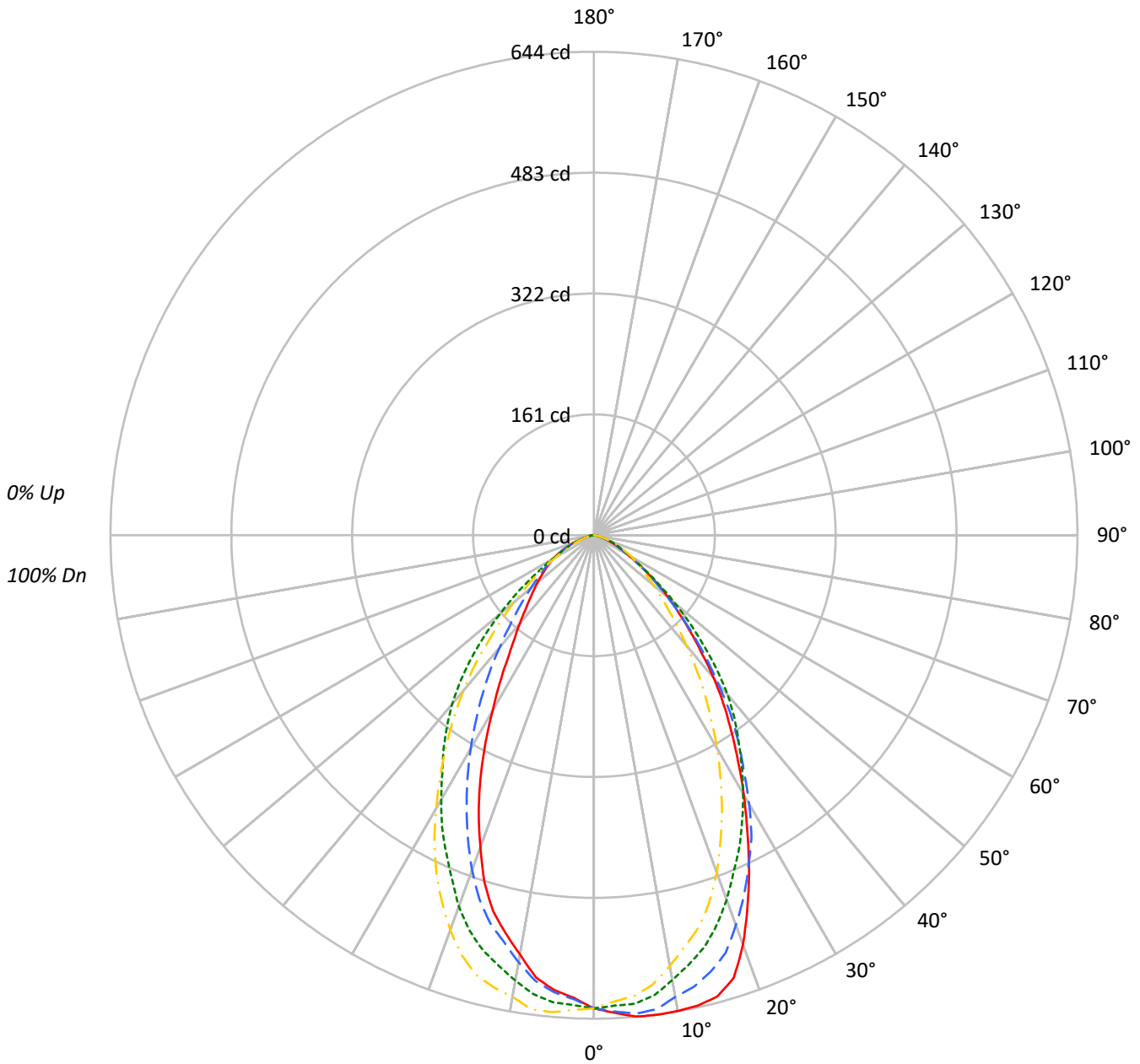
Lumens per Lamp: N/A
Luminaire Lumens: 880.0 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 0.93 / 1.01 / 1.02
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	92	92	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	82	82	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	73	73	73	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	69	66	66	66	66	64
5	85	74	67	62	83	73	67	62	72	66	61	70	64	60	68	63	60	60	60	60	58
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	54	54	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	50	50	50	48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	46	46	46	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	42	42	42	41
10	63	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	39	39	39	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	77720	77720	77720	77720
5°	79676	77546	75293	77311
10°	80597	75337	71028	75450
15°	81190	72532	66198	73030
20°	76197	67797	58018	69044
25°	66524	62373	48723	63408
30°	56843	56572	38484	57925
35°	48019	50609	30040	52612
40°	39964	44585	24748	47339
45°	31643	35812	21142	40138
50°	24908	26922	18863	31509
55°	18472	19096	17032	22988
60°	12951	13667	15320	16010
65°	9748	10595	13105	11995
70°	6888	8259	9629	9304
75°	4099	5004	5481	5481
80°	3410	4759	4759	4759
85°	2689	4104	4104	4104

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 45°
 Luminance: 40138 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.0	6.7
10°-20°	159.5	18.1
20°-30°	202.9	23.1
30°-40°	187.2	21.3
40°-50°	136.8	15.5
50°-60°	79.5	9.0
60°-70°	38.8	4.4
70°-80°	13.3	1.5
80°-90°	3.0	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
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0°-30°	421.4	47.9
0°-40°	608.6	69.2
0°-60°	824.9	93.7
0°-90°	880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	880.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	630	630	630	630	630	
5°	644	626	608	624	644	61
15°	636	568	518	572	636	177
25°	489	458	358	466	489	224
35°	319	336	200	349	319	200
45°	181	205	121	230	181	141
55°	86	89	79	107	86	78
65°	33	36	45	41	33	34
75°	9	10	12	12	9	11
85°	2	3	3	3	2	2
90°	0	0	0	0	0	



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CATALOG NUMBER: LCR408WW9FSE020-8W-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	630.1	630.1	630.1	630.1	630.1	630.1	630.1	630.1	630.1	630.1	630.1
2.5°	636.8	635.8	634.9	631.0	627.2	623.4	621.5	618.6	616.7	616.7	618.6
5°	643.5	641.6	639.6	633.9	626.3	620.5	615.8	612.0	608.1	607.2	611.0
7.5°	644.4	642.5	636.8	627.2	617.7	608.1	603.4	596.7	593.8	591.9	598.6
10°	643.5	638.7	624.4	614.8	601.5	591.0	582.4	573.8	567.1	568.0	577.6
12.5°	641.6	636.8	615.8	600.5	585.2	572.8	560.4	550.9	543.2	547.0	554.7
15°	635.8	628.2	601.5	581.4	568.0	553.7	540.4	527.0	518.4	521.3	534.6
17.5°	618.6	610.0	583.3	555.6	544.2	527.9	511.7	493.6	485.0	489.8	507.9
20°	580.5	580.5	552.8	526.0	516.5	497.4	478.3	456.3	442.0	450.6	474.5
22.5°	534.6	536.5	521.3	494.5	485.9	464.9	440.1	409.6	401.0	408.6	438.2
25°	488.8	487.8	486.9	464.0	458.3	433.4	403.8	372.3	358.0	367.6	401.0
27.5°	442.0	445.8	454.4	432.5	427.7	404.8	364.7	328.4	313.1	325.5	364.7
30°	399.1	402.9	413.4	399.1	397.2	370.4	328.4	284.5	270.2	285.5	328.4
32.5°	357.1	359.0	371.4	366.6	366.6	340.8	290.2	250.1	232.9	251.1	292.1
35°	318.9	321.7	335.1	334.1	336.1	310.3	256.8	213.9	199.5	215.8	258.7
37.5°	283.5	287.4	297.9	303.6	307.4	277.8	223.4	185.2	173.8	187.1	227.2
40°	248.2	251.1	256.8	271.1	276.9	245.4	191.9	161.3	153.7	164.2	195.7
42.5°	211.9	212.9	220.5	234.9	241.5	210.0	164.2	140.3	135.6	144.2	169.0
45°	181.4	181.4	185.2	198.6	205.3	176.6	140.3	124.1	121.2	127.9	146.1
47.5°	153.7	151.8	154.7	168.0	172.8	148.9	120.3	109.8	108.8	113.6	127.0
50°	129.8	127.0	127.0	138.4	140.3	122.2	104.1	98.3	98.3	102.2	109.8
52.5°	106.9	103.1	104.1	111.7	112.7	99.3	89.7	87.8	87.8	90.7	95.5
55°	85.9	84.0	84.0	88.8	88.8	82.1	78.3	78.3	79.2	81.1	84.0
57.5°	67.8	66.8	66.8	68.7	69.7	66.8	67.8	68.7	70.6	71.6	72.6
60°	52.5	51.6	52.5	53.5	55.4	55.4	58.2	60.1	62.1	63.0	62.1
62.5°	41.1	40.1	41.1	42.0	44.9	45.8	48.7	51.6	53.5	52.5	52.5
65°	33.4	32.5	33.4	34.4	36.3	38.2	41.1	43.0	44.9	43.9	43.9
67.5°	25.8	25.8	26.7	27.7	29.6	31.5	33.4	34.4	35.3	35.3	35.3
70°	19.1	19.1	20.0	21.0	22.9	24.8	25.8	25.8	26.7	26.7	27.7
72.5°	14.3	13.4	14.3	15.3	16.2	17.2	18.1	19.1	19.1	20.0	20.0
75°	8.6	8.6	9.5	9.5	10.5	11.5	11.5	11.5	11.5	12.4	11.5
77.5°	6.7	6.7	7.6	7.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
80°	4.8	4.8	5.7	5.7	6.7	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	1.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P645614

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	630.1	630.1	630.1	630.1	630.1	630.1
2.5°	621.5	626.3	630.1	633.0	634.9	636.8
5°	616.7	624.4	632.0	637.7	641.6	643.5
7.5°	606.2	616.7	627.2	636.8	640.6	644.4
10°	590.0	602.4	614.8	624.4	636.8	643.5
12.5°	572.8	587.1	601.5	616.7	634.9	641.6
15°	554.7	571.9	585.2	606.2	624.4	635.8
17.5°	527.9	551.8	561.4	586.2	608.1	618.6
20°	500.3	526.0	533.7	559.4	576.6	580.5
22.5°	468.8	494.5	504.1	528.9	533.7	534.6
25°	439.2	465.9	474.5	496.4	489.8	488.8
27.5°	407.7	438.2	443.0	460.2	447.7	442.0
30°	378.1	406.7	411.5	420.1	404.8	399.1
32.5°	346.6	376.1	379.0	380.9	364.7	357.1
35°	317.9	349.4	349.4	342.7	326.5	318.9
37.5°	288.3	321.7	319.8	306.5	290.2	283.5
40°	256.8	294.0	289.3	270.2	254.9	248.2
42.5°	224.4	262.5	256.8	234.9	217.7	211.9
45°	191.9	230.1	221.5	197.6	185.2	181.4
47.5°	161.3	196.7	190.0	167.1	157.5	153.7
50°	135.6	164.2	159.4	139.4	131.7	129.8
52.5°	111.7	134.6	130.8	114.6	108.8	106.9
55°	91.7	106.9	104.1	93.6	87.8	85.9
57.5°	75.4	83.1	82.1	74.5	70.6	67.8
60°	63.0	64.9	63.0	58.2	54.4	52.5
62.5°	52.5	51.6	48.7	44.9	42.0	41.1
65°	43.0	41.1	38.2	35.3	33.4	33.4
67.5°	35.3	33.4	30.6	27.7	26.7	25.8
70°	27.7	25.8	23.9	21.0	20.0	19.1
72.5°	20.0	18.1	17.2	15.3	14.3	14.3
75°	11.5	11.5	10.5	9.5	9.5	8.6
77.5°	8.6	8.6	7.6	7.6	6.7	6.7
80°	6.7	6.7	5.7	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	1.9	1.9
87.5°	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

(END OF REPORT)