

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: P645630

Luminaire Tested: LCR621WW9FSE020-23W-3000K

Issue Date: 3/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P645630  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-77)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: LCR621WW9FSE020-23W-3000K  
Description: LCR 6 Wall Wash  
Light Source: 3000K CCT, 93 CRI LEDS  
Ballast/Driver: -

**Summary**

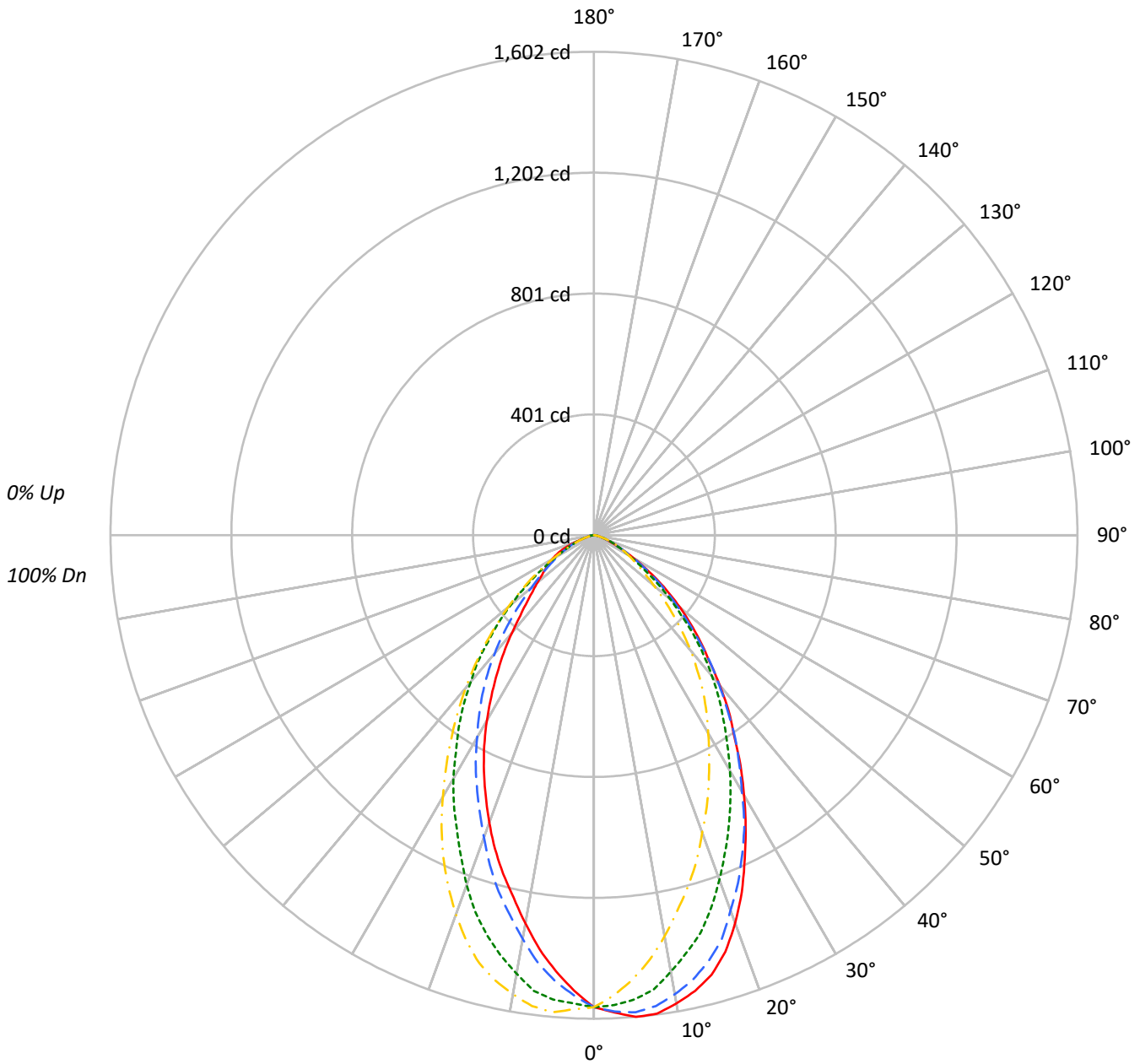
Lumens per Lamp: N/A  
Luminaire Lumens: 2125.0 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Spacing Criteria (0/90/45): 0.91 / 0.94 / 1.01  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 22.5  
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	95	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	78	95	87	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	73	68	78	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	48	43	39	48	43	39	37

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

	0°	90°	180°	270°
0°	85728	85728	85728	85728
5°	88152	84955	79760	85004
10°	87685	81740	72716	82113
15°	85557	77441	65914	77821
20°	79824	70869	59132	71925
25°	71520	64020	52195	65000
30°	62953	57040	44906	58971
35°	54114	50092	37397	52327
40°	46401	43532	30228	45442
45°	38733	36221	24251	38221
50°	31718	28221	20903	30660
55°	24238	20415	18867	22871
60°	16621	14637	17564	16205
65°	11013	11130	15579	11999
70°	7485	8255	9168	9168
75°	5041	5443	5443	5867
80°	4514	4830	4830	5430
85°	4214	4214	4214	4780

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 315°

Vertical Angle: 45°

Luminance: 39330 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.9	6.8
10°-20°	375.5	17.7
20°-30°	477.6	22.5
30°-40°	453.1	21.3
40°-50°	340.4	16.0
50°-60°	201.4	9.5
60°-70°	94.4	4.4
70°-80°	31.0	1.5
80°-90°	7.8	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°	997.0	46.9
0°-40°	1450.1	68.2
0°-60°	1991.8	93.7
0°-90°	2125.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2125.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1564	1564	1564	1564	1564	
5°	1602	1544	1449	1545	1602	152
15°	1508	1364	1161	1371	1508	420
25°	1182	1058	863	1075	1182	543
35°	809	748	559	782	809	509
45°	500	467	313	493	500	386
55°	254	214	197	239	254	228
65°	85	86	120	92	85	89
75°	24	26	26	28	24	28
85°	7	7	7	8	7	7
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°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8
2.5°	1582.9	1586.7	1580.0	1570.5	1558.1	1542.8	1525.6	1512.3	1510.4	1516.1	1525.6
5°	1601.9	1599.1	1586.7	1568.5	1543.8	1516.1	1477.0	1457.0	1449.4	1459.8	1482.7
7.5°	1599.1	1589.5	1573.3	1551.4	1518.0	1471.3	1418.8	1393.1	1383.6	1398.8	1427.4
10°	1575.2	1565.7	1544.7	1514.2	1468.4	1406.4	1349.2	1312.0	1306.3	1324.4	1358.8
12.5°	1546.6	1535.2	1509.4	1469.4	1416.9	1341.6	1274.9	1238.6	1230.0	1248.2	1288.2
15°	1507.5	1494.2	1462.7	1424.6	1364.5	1278.7	1204.3	1165.2	1161.4	1181.4	1221.5
17.5°	1447.4	1432.2	1405.5	1361.6	1293.0	1203.3	1130.9	1096.6	1089.9	1108.0	1146.1
20°	1368.3	1355.9	1323.5	1281.5	1214.8	1122.3	1047.9	1019.3	1013.6	1028.9	1065.1
22.5°	1279.6	1275.8	1247.2	1199.5	1135.6	1041.2	975.5	938.3	936.4	952.6	989.8
25°	1182.4	1188.1	1163.3	1120.4	1058.4	965.9	900.1	864.8	862.9	880.1	918.2
27.5°	1088.9	1089.9	1079.4	1038.4	979.3	887.7	826.7	798.1	786.7	806.7	848.6
30°	994.5	993.6	980.2	955.4	901.1	814.3	757.1	719.0	709.4	733.3	774.3
32.5°	903.0	908.7	895.4	873.4	821.9	745.7	694.2	648.4	632.2	659.8	708.5
35°	808.6	810.5	813.4	791.4	748.5	681.8	628.4	583.6	558.8	589.3	644.6
37.5°	733.3	726.6	723.7	715.1	679.9	619.8	561.6	511.1	490.1	521.6	578.8
40°	648.4	650.3	643.6	636.0	608.3	550.2	498.7	444.3	422.4	455.8	512.0
42.5°	565.4	571.2	569.3	559.7	537.8	485.3	431.0	385.2	361.4	390.0	447.2
45°	499.6	491.1	487.3	486.3	467.2	417.6	369.0	323.2	312.8	329.0	381.4
47.5°	433.9	429.1	417.6	414.8	391.9	352.8	311.8	282.2	274.6	285.1	323.2
50°	371.9	366.2	352.8	347.1	330.9	295.6	260.3	246.0	245.1	246.0	270.8
52.5°	309.9	307.0	294.6	287.0	269.8	242.2	217.4	211.7	217.4	217.4	227.9
55°	253.6	250.8	240.3	234.6	213.6	195.5	184.0	189.8	197.4	192.6	190.7
57.5°	199.3	198.3	190.7	185.0	170.7	160.2	155.4	166.9	178.3	170.7	161.1
60°	151.6	153.5	149.7	142.1	133.5	130.6	131.6	144.9	160.2	149.7	136.4
62.5°	113.5	116.3	115.4	109.7	106.8	107.7	109.7	125.9	141.1	129.7	114.4
65°	84.9	86.8	87.7	85.8	85.8	87.7	89.6	103.9	120.1	107.7	92.5
67.5°	63.9	64.8	65.8	67.7	67.7	70.6	70.6	80.1	90.6	83.9	73.4
70°	46.7	47.7	48.6	49.6	51.5	53.4	53.4	57.2	57.2	59.1	56.3
72.5°	33.4	33.4	33.4	36.2	36.2	38.1	38.1	39.1	39.1	40.0	40.0
75°	23.8	23.8	23.8	24.8	25.7	25.7	25.7	25.7	25.7	26.7	26.7
77.5°	19.1	19.1	19.1	20.0	20.0	20.0	20.0	20.0	21.0	21.0	21.0
80°	14.3	14.3	14.3	15.3	15.3	15.3	15.3	15.3	15.3	16.2	16.2
82.5°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	11.4	11.4	11.4
85°	6.7	6.7	5.7	6.7	6.7	6.7	6.7	6.7	6.7	7.6	7.6
87.5°	2.9	2.9	1.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.8
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°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8
2.5°	1538.0	1552.3	1564.7	1572.4	1580.0	1582.9
5°	1514.2	1544.7	1569.5	1586.7	1596.2	1601.9
7.5°	1473.2	1522.8	1551.4	1573.3	1589.5	1599.1
10°	1414.1	1475.1	1516.1	1544.7	1564.7	1575.2
12.5°	1352.1	1426.5	1473.2	1511.3	1534.2	1546.6
15°	1292.0	1371.2	1425.5	1468.4	1494.2	1507.5
17.5°	1218.6	1308.2	1361.6	1407.4	1437.0	1447.4
20°	1139.5	1232.9	1287.3	1336.8	1360.7	1368.3
22.5°	1067.9	1150.9	1207.2	1260.6	1277.7	1279.6
25°	985.9	1074.6	1128.0	1179.5	1193.8	1182.4
27.5°	918.2	1005.0	1049.8	1093.7	1095.6	1088.9
30°	852.5	931.6	966.9	1001.2	1004.1	994.5
32.5°	780.0	849.6	885.8	911.6	915.4	903.0
35°	706.6	781.9	806.7	824.8	826.7	808.6
37.5°	646.5	710.4	730.4	741.8	738.0	733.3
40°	577.8	635.0	654.1	660.8	657.0	648.4
42.5°	511.1	570.2	579.7	582.6	576.9	565.4
45°	444.3	493.0	506.3	507.3	502.5	499.6
47.5°	376.6	428.1	434.8	434.8	436.7	433.9
50°	315.6	359.5	366.2	371.9	371.9	371.9
52.5°	262.2	297.5	303.2	309.9	312.8	309.9
55°	210.7	239.3	247.9	255.5	256.5	253.6
57.5°	171.6	188.8	196.4	204.1	202.1	199.3
60°	140.2	147.8	154.5	159.2	157.3	151.6
62.5°	114.4	116.3	120.1	123.0	118.2	113.5
65°	93.4	92.5	92.5	92.5	87.7	84.9
67.5°	75.3	73.4	70.6	69.6	65.8	63.9
70°	58.2	57.2	54.4	51.5	48.6	46.7
72.5°	42.0	41.0	39.1	36.2	34.3	33.4
75°	27.7	27.7	26.7	25.7	23.8	23.8
77.5°	21.9	21.9	21.0	20.0	19.1	19.1
80°	16.2	17.2	16.2	15.3	14.3	14.3
82.5°	12.4	12.4	11.4	11.4	10.5	10.5
85°	7.6	7.6	7.6	6.7	6.7	6.7
87.5°	3.8	3.8	2.9	2.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)