

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: P645632

Luminaire Tested: LCR621WW9FSE020-23W-4000K

Issue Date: 3/14/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P645632  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-759-85)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/14/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: LCR621WW9FSE020-23W-4000K  
Description: LCR 6 Wall Wash  
Light Source: 4000K CCT, 93 CRI LEDS  
Ballast/Driver: -

**Summary**

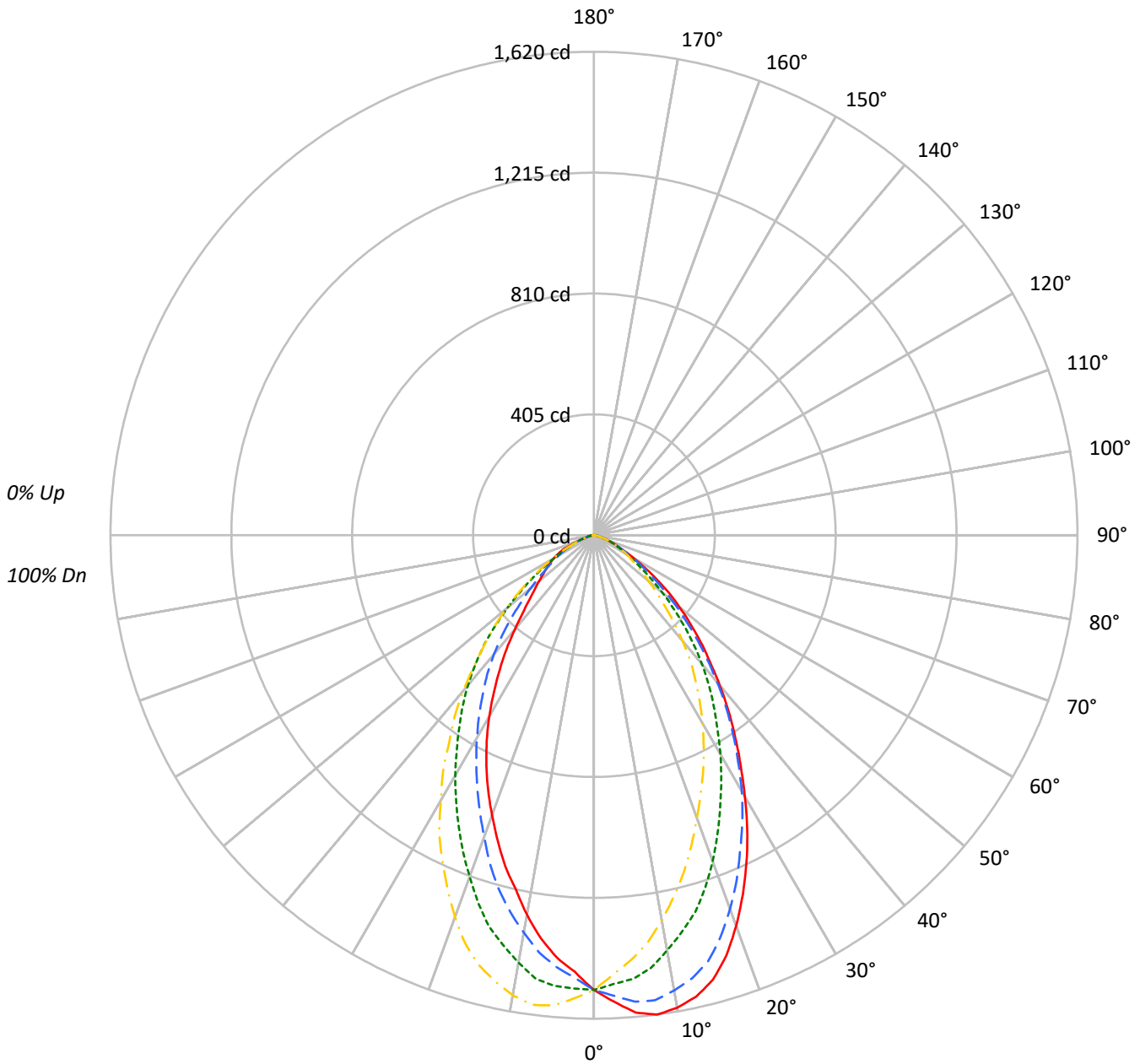
Lumens per Lamp: N/A  
Luminaire Lumens: 2110.0 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Spacing Criteria (0/90/45): 0.94 / 0.94 / 1.02  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 22.7  
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	101	102	100	97	98	96	95	95	93	92	92	90	
2	104	98	93	89	102	96	91	87	93	89	86	90	87	84	87	84	82	82	80	
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	73	71	
4	91	81	74	69	89	80	73	68	78	72	67	75	71	67	73	69	66	66	64	
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	59	58	
6	79	68	61	56	78	67	60	55	66	60	55	64	59	54	63	58	54	54	52	
7	74	63	56	50	73	62	55	50	61	55	50	60	54	50	58	53	49	49	48	
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	45	44	
9	66	54	47	43	65	54	47	42	53	47	42	52	46	42	51	46	42	42	40	
10	62	51	44	39	61	50	44	39	49	43	39	49	43	39	48	43	39	39	37	

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

	0°	90°	180°	270°
0°	83513	83513	83513	83513
5°	88350	82132	78197	83408
10°	89483	78617	71898	80933
15°	87503	74234	65188	77032
20°	81265	67853	58216	71010
25°	73159	60536	51535	64921
30°	64023	53629	44393	58826
35°	55212	46873	36788	52622
40°	46938	40233	29448	47010
45°	39167	32879	23739	40369
50°	31803	25543	20511	32135
55°	24467	18561	18465	24095
60°	17049	13453	17159	16950
65°	11272	10650	14788	12025
70°	7742	8046	8207	8976
75°	5126	5316	5126	5719
80°	4893	4578	4578	5177
85°	4277	3648	3648	4843

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 292.5°

Vertical Angle: 45°

Luminance: 40896 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.0	6.7
10°-20°	374.0	17.7
20°-30°	476.5	22.6
30°-40°	451.1	21.4
40°-50°	337.1	16.0
50°-60°	199.3	9.4
60°-70°	92.6	4.4
70°-80°	30.2	1.4
80°-90°	7.5	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°	992.4	47.0
0°-40°	1443.4	68.4
0°-60°	1979.8	93.8
0°-90°	2110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2110.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1523	1523	1523	1523	1523	
5°	1606	1492	1421	1516	1606	153
15°	1542	1308	1149	1357	1542	429
25°	1210	1001	852	1073	1210	553
35°	825	700	550	786	825	516
45°	505	424	306	521	505	390
55°	256	194	193	252	256	230
65°	87	82	114	93	87	91
75°	24	25	24	27	24	29
85°	7	6	6	8	7	8
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°	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4
2.5°	1565.0	1562.1	1544.7	1527.3	1505.1	1489.6	1473.2	1465.5	1464.5	1472.2	1483.8
5°	1605.5	1595.9	1568.8	1529.2	1492.5	1460.6	1428.8	1419.1	1421.0	1432.6	1451.9
7.5°	1620.0	1605.5	1571.7	1518.6	1462.6	1413.3	1376.6	1365.0	1362.1	1382.4	1409.4
10°	1607.5	1592.0	1548.5	1483.8	1412.3	1354.4	1309.0	1287.7	1291.6	1316.7	1352.4
12.5°	1583.3	1565.0	1520.5	1446.1	1361.1	1290.6	1239.4	1215.3	1213.3	1248.1	1293.5
15°	1541.8	1524.4	1478.0	1399.8	1308.0	1224.0	1167.0	1142.8	1148.6	1178.6	1229.8
17.5°	1476.1	1460.6	1411.4	1341.8	1239.4	1150.5	1087.7	1066.5	1072.3	1104.2	1156.3
20°	1393.0	1377.6	1333.1	1272.3	1163.1	1069.4	1008.5	990.2	997.9	1026.9	1075.2
22.5°	1303.2	1289.6	1250.0	1195.9	1082.0	988.2	935.1	917.7	926.4	949.6	998.9
25°	1209.5	1201.7	1160.2	1112.9	1000.8	914.8	866.5	845.3	852.0	877.2	925.5
27.5°	1112.9	1103.2	1077.1	1031.7	923.5	843.3	796.0	774.8	777.7	805.7	854.0
30°	1011.4	1007.6	990.2	946.7	847.2	772.8	727.4	703.3	701.3	732.3	783.4
32.5°	914.8	908.1	899.4	858.8	769.9	707.1	658.8	629.9	624.1	659.8	715.8
35°	825.0	818.2	812.4	772.8	700.4	641.4	593.1	558.4	549.7	589.3	649.2
37.5°	740.0	732.3	728.4	691.7	632.7	579.6	530.4	491.7	481.1	522.6	587.3
40°	655.9	648.2	641.4	609.6	562.2	513.0	460.8	422.2	411.5	453.1	520.7
42.5°	574.8	569.0	558.4	532.3	492.7	441.5	397.0	358.4	352.6	388.3	456.0
45°	505.2	493.6	482.0	456.9	424.1	380.6	336.2	307.2	306.2	330.4	389.3
47.5°	436.6	424.1	409.6	386.4	358.4	317.8	284.0	266.6	269.5	284.0	328.5
50°	372.9	361.3	344.9	322.7	299.5	266.6	239.6	233.8	240.5	247.3	279.2
52.5°	314.9	300.4	285.0	264.7	243.4	218.3	200.9	205.8	214.5	214.5	229.9
55°	256.0	245.4	232.8	211.6	194.2	176.8	172.0	182.6	193.2	189.3	191.3
57.5°	200.9	193.2	185.5	168.1	154.6	147.8	145.9	161.3	174.9	167.1	161.3
60°	155.5	149.7	145.9	132.3	122.7	120.8	123.7	141.0	156.5	145.9	136.2
62.5°	115.0	115.0	112.1	103.4	101.4	102.4	102.4	119.8	136.2	123.7	112.1
65°	86.9	86.0	86.0	82.1	82.1	83.1	82.1	96.6	114.0	103.4	90.8
67.5°	65.7	64.7	65.7	64.7	65.7	66.7	63.8	71.5	81.1	77.3	71.5
70°	48.3	47.3	48.3	49.3	50.2	50.2	48.3	52.2	51.2	53.1	53.1
72.5°	34.8	34.8	33.8	35.7	34.8	35.7	33.8	34.8	34.8	36.7	37.7
75°	24.2	24.2	24.2	24.2	25.1	25.1	24.2	24.2	24.2	25.1	25.1
77.5°	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	20.3	20.3
80°	15.5	15.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	15.5	15.5
82.5°	10.6	10.6	10.6	10.6	10.6	9.7	9.7	9.7	9.7	10.6	10.6
85°	6.8	6.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	6.8	6.8
87.5°	2.9	2.9	2.9	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9
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°	1523.4	1523.4	1523.4	1523.4	1523.4	1523.4
2.5°	1503.1	1520.5	1536.0	1554.3	1561.1	1565.0
5°	1484.8	1515.7	1550.5	1581.4	1600.7	1605.5
7.5°	1451.0	1498.3	1542.7	1587.2	1615.2	1620.0
10°	1402.7	1453.9	1511.8	1565.0	1598.8	1607.5
12.5°	1351.5	1406.5	1475.1	1531.2	1572.7	1583.3
15°	1296.4	1357.3	1432.6	1490.6	1529.2	1541.8
17.5°	1233.6	1290.6	1371.8	1434.6	1464.5	1476.1
20°	1164.1	1217.2	1298.3	1361.1	1385.3	1393.0
22.5°	1084.9	1146.7	1223.0	1281.9	1298.3	1303.2
25°	1018.2	1073.3	1155.4	1201.7	1210.4	1209.5
27.5°	952.5	1000.8	1078.1	1123.5	1119.6	1112.9
30°	879.1	929.3	984.4	1025.0	1022.1	1011.4
32.5°	806.6	855.9	907.1	942.8	925.5	914.8
35°	740.0	786.3	826.9	844.3	835.6	825.0
37.5°	674.3	722.6	748.7	767.0	749.6	740.0
40°	607.6	656.9	672.4	682.0	667.5	655.9
42.5°	539.0	588.3	599.9	592.2	584.4	574.8
45°	467.6	520.7	527.5	516.8	514.9	505.2
47.5°	399.9	447.3	456.9	453.1	444.4	436.6
50°	335.2	376.8	388.3	381.6	380.6	372.9
52.5°	276.3	311.1	322.7	320.7	322.7	314.9
55°	222.2	252.1	262.8	265.7	263.7	256.0
57.5°	178.7	197.1	209.6	212.5	208.7	200.9
60°	143.0	154.6	164.2	168.1	162.3	155.5
62.5°	115.9	118.8	126.5	127.5	120.8	115.0
65°	93.7	92.7	96.6	97.6	90.8	86.9
67.5°	74.4	73.4	73.4	72.5	67.6	65.7
70°	57.0	56.0	55.1	52.2	49.3	48.3
72.5°	40.6	39.6	39.6	37.7	35.7	34.8
75°	26.1	27.0	27.0	26.1	25.1	24.2
77.5°	21.3	21.3	21.3	20.3	20.3	19.3
80°	15.5	16.4	16.4	16.4	15.5	15.5
82.5°	11.6	11.6	11.6	11.6	10.6	10.6
85°	6.8	7.7	7.7	6.8	6.8	6.8
87.5°	2.9	3.9	3.9	3.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)