

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 COMMERCIAL

Report Number: P837680

Luminaire Tested: HCSQ460D010-HM44560830-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837680
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ460D010-HM44560830-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

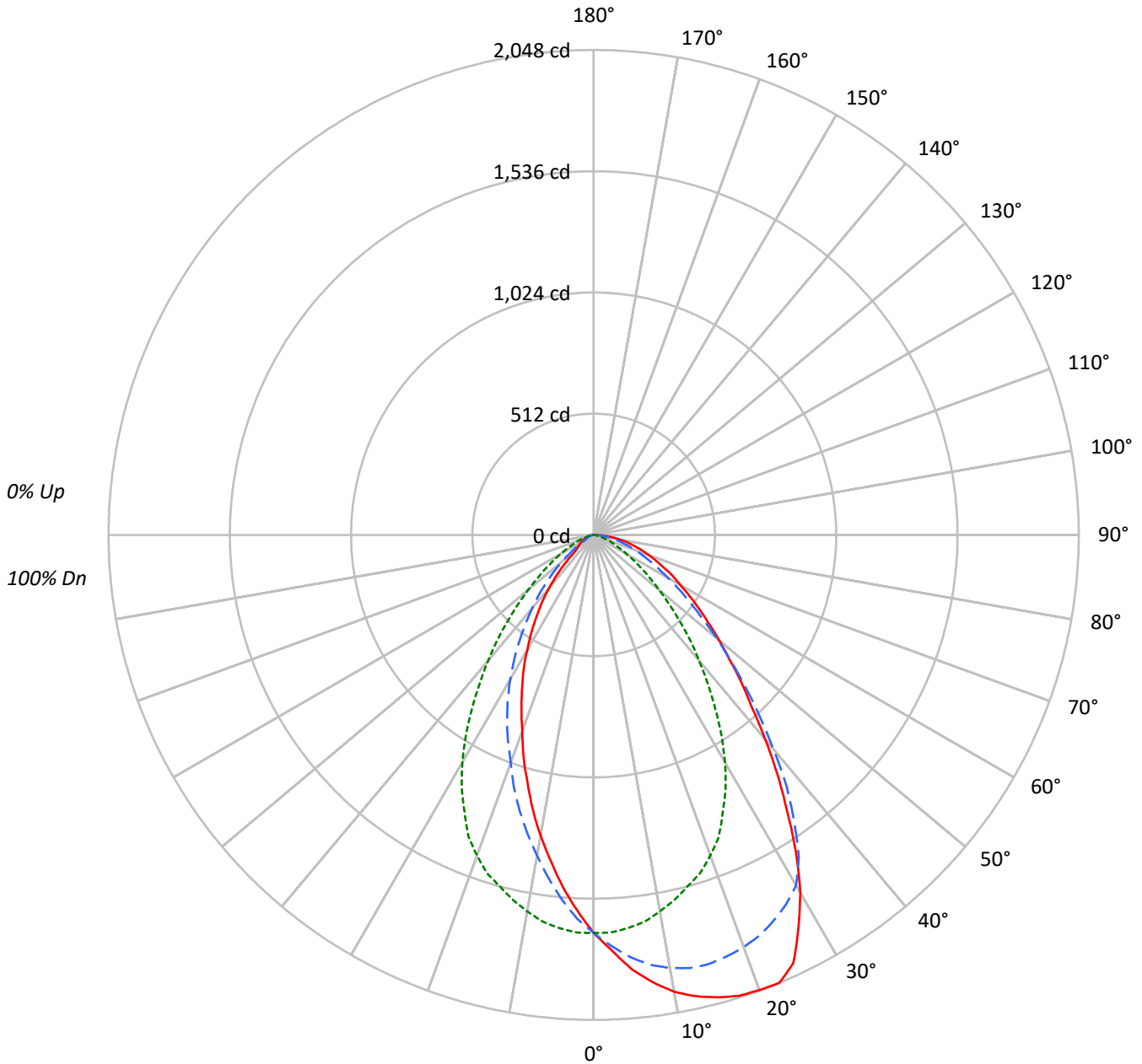
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2718.6 lumens
Efficiency: N/A
Efficacy: 48.5 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 56
Input Voltage (V): NR
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	100								
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78								
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69								
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62								
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55								
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50								
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45								
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42								
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38								
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	162819	162819	162819	162819	162819
5°	178971	174099	162050	150225	145129
10°	192766	182683	158759	135308	126868
15°	202752	188169	153980	120983	108306
20°	210866	190959	148443	105433	90938
25°	213289	192135	137856	92503	76448
30°	195211	191206	123999	78673	62665
35°	168312	174521	105727	64560	49623
40°	142598	149238	87423	50951	37079
45°	120850	123782	69899	37881	23838
50°	104187	101685	54256	25515	14378
55°	91796	83756	41464	14086	12887
60°	81763	70215	30942	7847	11548
65°	74865	60103	22946	7106	10384
70°	69537	52004	16881	6741	10140
75°	65128	45515	11603	6251	8908
80°	62483	39889	7978	6639	7978
85°	60911	34457	5335	5335	5335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 125741 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.6	5.8
10°-20°	433.9	16.0
20°-30°	606.6	22.3
30°-40°	593.0	21.8
40°-50°	430.3	15.8
50°-60°	259.4	9.5
60°-70°	145.8	5.4
70°-80°	72.2	2.7
80°-90°	19.8	0.7
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°	1198.1	44.1
0°-40°	1791.1	65.9
0°-60°	2480.8	91.3
0°-90°	2718.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2718.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1681	1681	1681	1681	1681	
5°	1840	1790	1666	1545	1492	179
15°	2022	1876	1535	1206	1080	572
25°	1995	1798	1290	865	715	899
35°	1423	1476	894	546	420	891
45°	882	904	510	276	174	684
55°	544	496	246	83	76	489
65°	327	262	100	31	45	327
75°	174	122	31	17	24	187
85°	55	31	5	5	5	61
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°
0°	1680.7	1680.7	1680.7	1680.7	1680.7	1680.7	1680.7	1680.7	1680.7
2.5°	1757.0	1752.2	1737.9	1709.3	1680.7	1647.3	1621.1	1602.0	1587.7
5°	1840.4	1830.9	1790.3	1730.7	1666.4	1602.0	1544.8	1511.4	1492.4
7.5°	1904.8	1888.1	1830.9	1747.4	1647.3	1549.6	1461.4	1408.9	1387.5
10°	1959.6	1931.0	1857.1	1745.1	1613.9	1485.2	1375.5	1313.6	1289.7
12.5°	1995.4	1964.4	1873.8	1742.7	1578.2	1420.8	1292.1	1211.0	1187.2
15°	2021.6	1983.4	1876.2	1723.6	1535.3	1354.1	1206.3	1110.9	1079.9
17.5°	2040.7	1988.2	1866.6	1702.1	1497.1	1285.0	1118.1	1015.6	984.6
20°	2045.4	1988.2	1852.3	1671.2	1439.9	1215.8	1022.7	920.2	882.1
22.5°	2047.8	1981.1	1830.9	1633.0	1380.3	1137.1	944.0	836.8	796.2
25°	1995.4	1957.2	1797.5	1568.6	1289.7	1051.3	865.4	748.6	715.2
27.5°	1871.4	1869.0	1759.4	1482.8	1206.3	958.3	784.3	672.3	641.3
30°	1745.1	1747.4	1709.3	1387.5	1108.5	870.1	703.3	593.6	560.2
32.5°	1590.1	1613.9	1611.6	1280.2	1003.6	786.7	624.6	522.1	488.7
35°	1423.2	1466.1	1475.7	1158.6	894.0	691.3	545.9	453.0	419.6
37.5°	1273.0	1315.9	1337.4	1051.3	791.5	607.9	472.0	391.0	357.6
40°	1127.6	1163.4	1180.1	927.4	691.3	522.1	402.9	326.6	293.2
42.5°	987.0	1039.4	1034.6	822.5	603.1	453.0	340.9	264.6	231.2
45°	882.1	917.8	903.5	712.8	510.2	381.4	276.5	205.0	174.0
47.5°	777.2	803.4	781.9	619.8	431.5	314.7	224.1	150.2	116.8
50°	691.3	703.3	674.7	526.9	360.0	257.5	169.3	100.1	95.4
52.5°	610.3	617.4	576.9	448.2	298.0	207.4	124.0	78.7	83.4
55°	543.5	541.2	495.9	379.0	245.5	159.7	83.4	71.5	76.3
57.5°	479.2	472.0	426.7	314.7	200.3	124.0	50.1	62.0	66.8
60°	422.0	414.8	362.4	259.9	159.7	93.0	40.5	54.8	59.6
62.5°	376.7	360.0	307.5	214.6	128.7	66.8	35.8	47.7	52.4
65°	326.6	312.3	262.2	174.0	100.1	47.7	31.0	40.5	45.3
67.5°	286.1	269.4	221.7	143.0	81.1	33.4	28.6	35.8	40.5
70°	245.5	231.2	183.6	114.4	59.6	21.5	23.8	31.0	35.8
72.5°	212.2	195.5	152.6	90.6	45.3	16.7	21.5	26.2	28.6
75°	174.0	159.7	121.6	69.1	31.0	14.3	16.7	21.5	23.8
77.5°	145.4	131.1	95.4	52.4	21.5	11.9	14.3	19.1	19.1
80°	112.0	100.1	71.5	35.8	14.3	7.2	11.9	14.3	14.3
82.5°	81.1	71.5	50.1	23.8	7.2	7.2	7.2	9.5	9.5
85°	54.8	47.7	31.0	14.3	4.8	4.8	4.8	4.8	4.8
87.5°	31.0	23.8	14.3	4.8	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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