

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: P837700

Luminaire Tested: HCSQ460D010-HM44560930-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837700
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-HM44560930-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

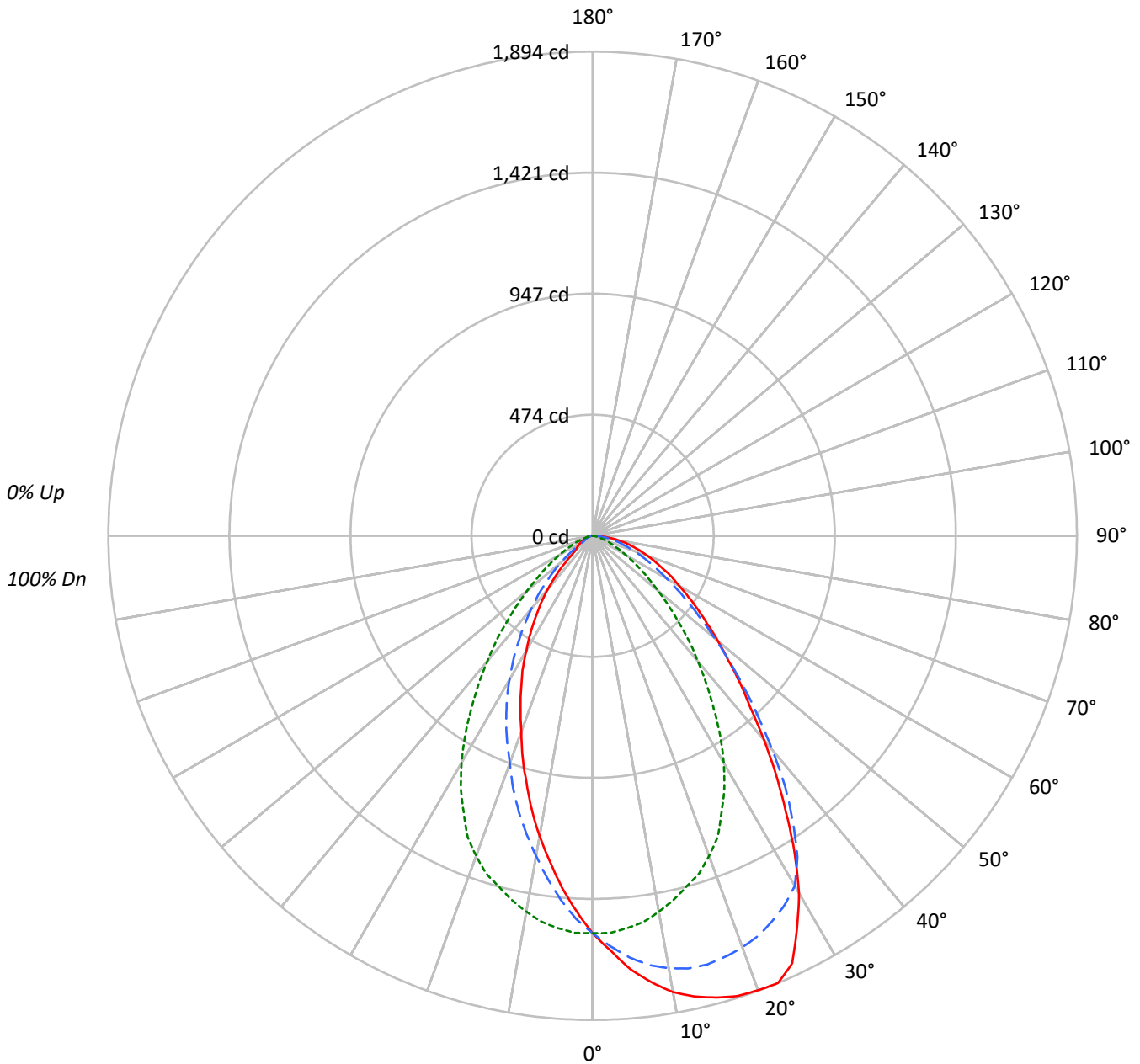
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2514.6 lumens
Efficiency: N/A
Efficacy: 44.9 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 (A_{in}): 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°	150603	150603	150603	150603	150603
5°	165541	161039	149884	138954	134238
10°	178305	168970	146847	125156	117345
15°	187538	174048	142426	111907	100183
20°	195041	176629	137309	97526	84113
25°	197277	177716	127509	85555	70708
30°	180557	176854	114703	72766	57967
35°	155681	161417	97792	59723	45898
40°	131900	138033	80872	47132	34296
45°	111780	114493	64652	35045	22057
50°	96380	94044	50187	23601	13293
55°	84921	77473	38357	13039	11924
60°	75621	64945	28617	7266	10676
65°	69249	55610	21226	6579	9605
70°	64325	48095	15607	6260	9375
75°	60262	42109	10742	5764	8272
80°	57797	36932	7364	6137	7364
85°	56354	31901	4891	4891	4891

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 116301 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.8	5.8
10°-20°	401.3	16.0
20°-30°	561.1	22.3
30°-40°	548.5	21.8
40°-50°	398.0	15.8
50°-60°	239.9	9.5
60°-70°	134.9	5.4
70°-80°	66.8	2.7
80°-90°	18.3	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°	1108.2	44.1
0°-40°	1656.7	65.9
0°-60°	2294.6	91.3
0°-90°	2514.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2514.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1555	1555	1555	1555	1555	
5°	1702	1656	1541	1429	1380	166
15°	1870	1735	1420	1116	999	530
25°	1846	1663	1193	800	662	832
35°	1316	1365	827	505	388	824
45°	816	836	472	256	161	633
55°	503	459	227	77	71	452
65°	302	243	93	29	42	303
75°	161	112	29	15	22	173
85°	51	29	4	4	4	56
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°	1554.6	1554.6	1554.6	1554.6	1554.6	1554.6	1554.6	1554.6	1554.6
2.5°	1625.1	1620.7	1607.5	1581.0	1554.6	1523.7	1499.4	1481.8	1468.6
5°	1702.3	1693.5	1656.0	1600.9	1541.3	1481.8	1428.9	1398.0	1380.4
7.5°	1761.8	1746.4	1693.5	1616.3	1523.7	1433.3	1351.7	1303.2	1283.3
10°	1812.6	1786.1	1717.7	1614.1	1492.8	1373.8	1272.3	1215.0	1192.9
12.5°	1845.6	1817.0	1733.2	1611.9	1459.7	1314.2	1195.1	1120.2	1098.1
15°	1869.9	1834.6	1735.4	1594.3	1420.1	1252.5	1115.8	1027.6	998.9
17.5°	1887.5	1839.0	1726.6	1574.4	1384.8	1188.5	1034.2	939.4	910.7
20°	1891.9	1839.0	1713.3	1545.7	1331.9	1124.6	946.0	851.2	815.9
22.5°	1894.1	1832.4	1693.5	1510.5	1276.7	1051.8	873.2	774.0	736.5
25°	1845.6	1810.4	1662.6	1450.9	1192.9	972.4	800.4	692.4	661.5
27.5°	1731.0	1728.8	1627.3	1371.5	1115.8	886.4	725.5	621.8	593.2
30°	1614.1	1616.3	1581.0	1283.3	1025.4	804.8	650.5	549.1	518.2
32.5°	1470.8	1492.8	1490.6	1184.1	928.3	727.7	577.7	482.9	452.0
35°	1316.4	1356.1	1364.9	1071.7	826.9	639.5	505.0	419.0	388.1
37.5°	1177.5	1217.2	1237.0	972.4	732.1	562.3	436.6	361.6	330.8
40°	1043.0	1076.1	1091.5	857.8	639.5	482.9	372.7	302.1	271.2
42.5°	912.9	961.4	957.0	760.7	557.9	419.0	315.3	244.8	213.9
45°	815.9	848.9	835.7	659.3	471.9	352.8	255.8	189.6	161.0
47.5°	718.8	743.1	723.3	573.3	399.1	291.1	207.3	138.9	108.0
50°	639.5	650.5	624.0	487.3	333.0	238.1	156.6	92.6	88.2
52.5°	564.5	571.1	533.6	414.6	275.6	191.8	114.7	72.8	77.2
55°	502.8	500.5	458.7	350.6	227.1	147.7	77.2	66.2	70.6
57.5°	443.2	436.6	394.7	291.1	185.2	114.7	46.3	57.3	61.7
60°	390.3	383.7	335.2	240.4	147.7	86.0	37.5	50.7	55.1
62.5°	348.4	333.0	284.5	198.5	119.1	61.7	33.1	44.1	48.5
65°	302.1	288.9	242.6	161.0	92.6	44.1	28.7	37.5	41.9
67.5°	264.6	249.2	205.1	132.3	75.0	30.9	26.5	33.1	37.5
70°	227.1	213.9	169.8	105.8	55.1	19.8	22.1	28.7	33.1
72.5°	196.3	180.8	141.1	83.8	41.9	15.4	19.8	24.3	26.5
75°	161.0	147.7	112.5	63.9	28.7	13.2	15.4	19.8	22.1
77.5°	134.5	121.3	88.2	48.5	19.8	11.0	13.2	17.6	17.6
80°	103.6	92.6	66.2	33.1	13.2	6.6	11.0	13.2	13.2
82.5°	75.0	66.2	46.3	22.1	6.6	6.6	6.6	8.8	8.8
85°	50.7	44.1	28.7	13.2	4.4	4.4	4.4	4.4	4.4
87.5°	28.7	22.1	13.2	4.4	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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— 0°-180° - - 45°-225° - - - - 90°-270°

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