

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: P837491

Luminaire Tested: HCSQ435D010-HM43040840-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837491
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ435D010-HM43040840-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

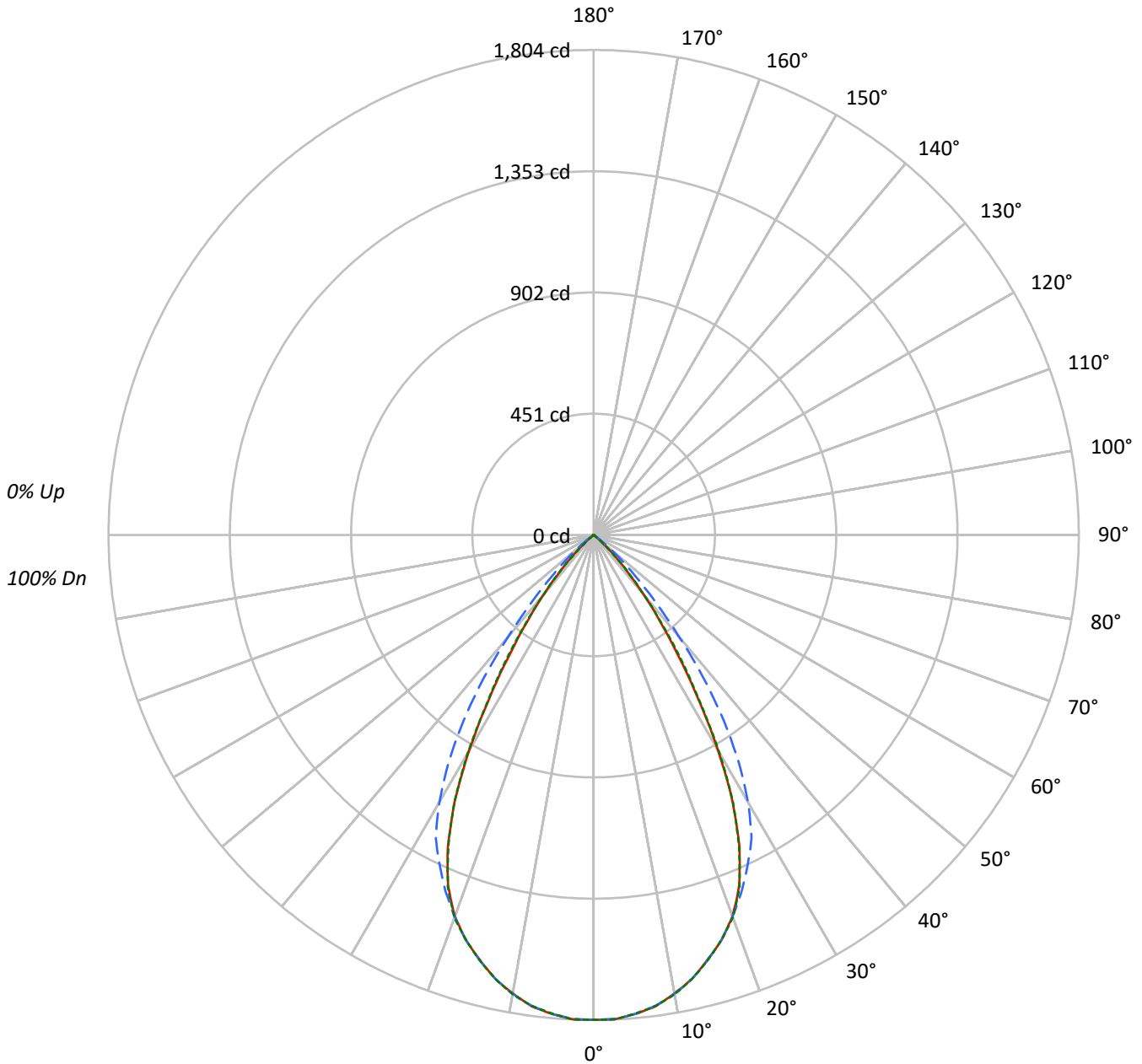
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1801.6 lumens
Efficiency: N/A
Efficacy: 53.0 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 34
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					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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	174715	174715	174715
5°	173924	173924	173758
10°	170337	170505	170662
15°	164099	164270	164270
20°	155577	155752	156093
25°	137162	144858	136627
30°	103495	128384	104434
35°	64903	99920	67079
40°	36598	62207	36598
45°	15358	31401	15125
50°	1266	12102	1507
55°	557	2550	557
60°	639	329	639
65°	390	390	390
70°	482	482	482
75°	636	636	636
80°	0	948	948
85°	0	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 31401 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.0	9.4
10°-20°	459.8	25.5
20°-30°	596.5	33.1
30°-40°	424.1	23.5
40°-50°	137.5	7.6
50°-60°	9.9	0.6
60°-70°	1.7	0.1
70°-80°	1.8	0.1
80°-90°	1.2	0.1
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°	1225.4	68.0
0°-40°	1649.5	91.6
0°-60°	1796.9	99.7
0°-90°	1801.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1801.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1804	1804	1804	1804	1804	
5°	1788	1790	1788	1788	1787	169
15°	1636	1641	1638	1641	1638	459
25°	1283	1317	1355	1323	1278	575
35°	549	649	845	656	567	351
45°	112	159	229	162	110	93
55°	3	3	15	3	3	4
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1803.5	1803.5	1803.5	1803.5	1803.5
2.5°	1803.5	1803.5	1801.9	1801.9	1803.5
5°	1788.5	1790.1	1788.5	1788.5	1786.8
7.5°	1768.4	1768.4	1766.7	1766.7	1766.7
10°	1731.6	1733.3	1733.3	1733.3	1734.9
12.5°	1691.4	1691.4	1691.4	1691.4	1691.4
15°	1636.2	1641.2	1637.9	1641.2	1637.9
17.5°	1581.0	1581.0	1579.3	1582.7	1579.3
20°	1509.1	1509.1	1510.8	1514.1	1514.1
22.5°	1413.7	1430.4	1437.1	1433.8	1417.1
25°	1283.2	1316.7	1355.2	1323.4	1278.2
27.5°	1119.3	1182.8	1271.5	1192.9	1122.6
30°	925.2	1020.6	1147.7	1023.9	933.6
32.5°	724.4	834.8	1003.8	843.2	731.1
35°	548.8	649.1	844.9	655.8	567.2
37.5°	404.9	496.9	670.9	500.2	416.6
40°	289.4	356.4	491.9	363.0	289.4
42.5°	185.7	252.6	346.3	254.3	194.1
45°	112.1	158.9	229.2	162.3	110.4
47.5°	50.2	90.3	142.2	93.7	50.2
50°	8.4	36.8	80.3	38.5	10.0
52.5°	5.0	6.7	38.5	6.7	5.0
55°	3.3	3.3	15.1	3.3	3.3
57.5°	3.3	3.3	3.3	3.3	3.3
60°	3.3	1.7	1.7	1.7	3.3
62.5°	1.7	1.7	1.7	1.7	1.7
65°	1.7	1.7	1.7	1.7	1.7
67.5°	1.7	1.7	1.7	1.7	1.7
70°	1.7	1.7	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7	1.7
75°	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7
80°	0.0	1.7	1.7	1.7	1.7
82.5°	0.0	1.7	1.7	1.7	1.7
85°	0.0	0.0	1.7	1.7	1.7
87.5°	0.0	0.0	1.7	1.7	1.7
90°	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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