

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: P837506

Luminaire Tested: HCSQ435D010-HM43040935-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837506
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-HM43040935-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

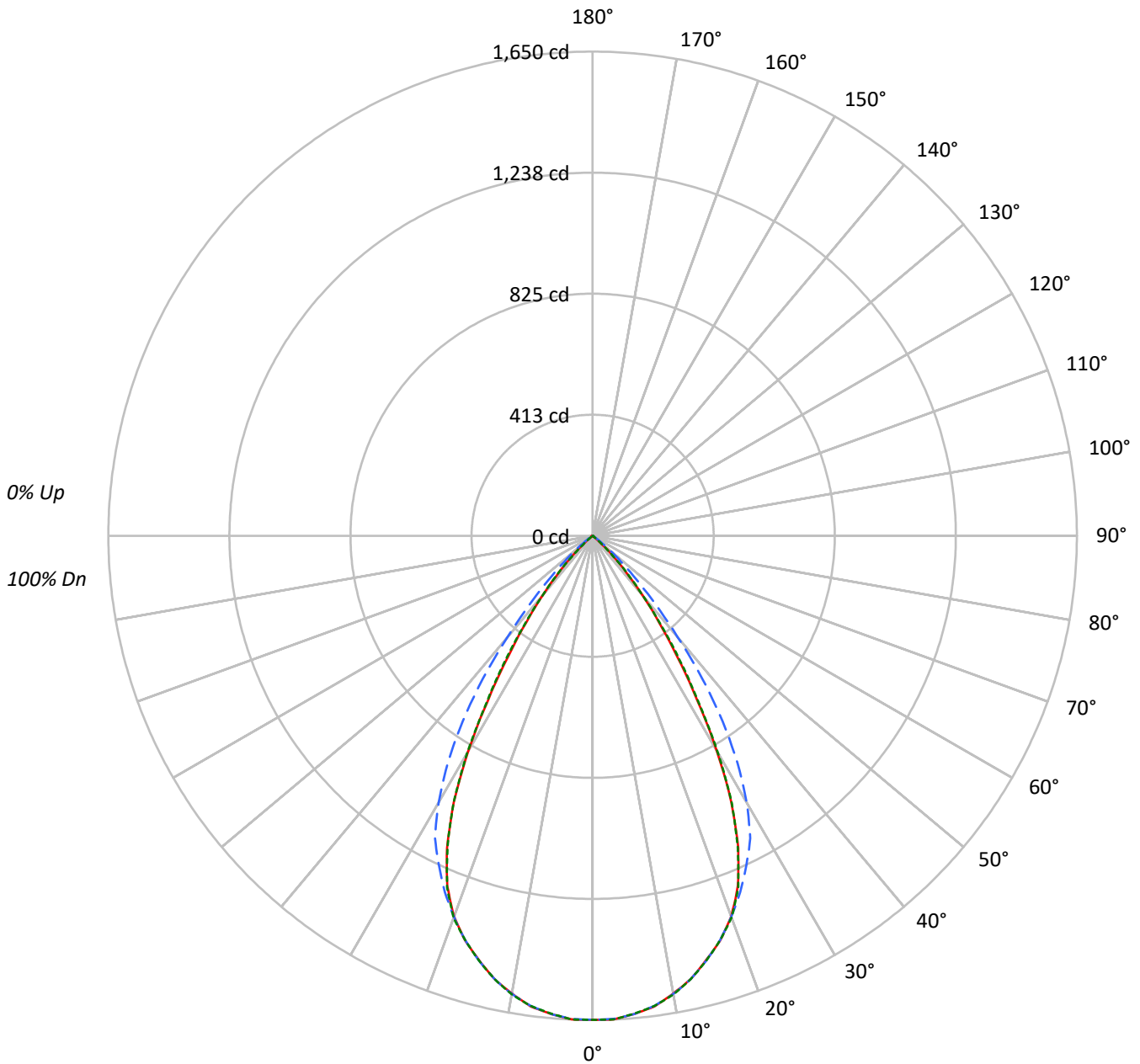
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1647.7 lumens
Efficiency: N/A
Efficacy: 48.5 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										
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	50	30	10	0		
RCR	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100		
	1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	87	87	87	87	87		
	3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74	74	74	74	74	74		
	5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69	69	69	69	69	69		
	6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64	64	64	64	64	64		
	7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60	60	60	60	60	60		
	8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56	56	56	56	56	56		
	9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52	52	52	52	52	52		
	10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49	49	49	49	49	49		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	159806	159806	159806
5°	159074	159074	158928
10°	155798	155946	156103
15°	150098	150249	150249
20°	142299	142453	142773
25°	125457	132490	124965
30°	94658	117422	95519
35°	59356	91394	61343
40°	33474	56895	33474
45°	14043	28716	13837
50°	1160	11077	1387
55°	524	2331	524
60°	601	291	601
65°	344	344	344
70°	425	425	425
75°	561	561	561
80°	0	837	837
85°	0	1667	1667

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 28716 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.6	9.4
10°-20°	420.6	25.5
20°-30°	545.6	33.1
30°-40°	387.9	23.5
40°-50°	125.8	7.6
50°-60°	9.1	0.6
60°-70°	1.5	0.1
70°-80°	1.6	0.1
80°-90°	1.0	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°	1120.8	68.0
0°-40°	1508.7	91.6
0°-60°	1643.6	99.7
0°-90°	1647.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1647.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1650	1650	1650	1650	1650	
5°	1636	1637	1636	1636	1634	155
15°	1497	1501	1498	1501	1498	420
25°	1174	1204	1240	1210	1169	525
35°	502	594	773	600	519	321
45°	102	145	210	148	101	85
55°	3	3	14	3	3	4
65°	2	2	2	2	2	2
75°	2	2	2	2	2	1
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°	1649.6	1649.6	1649.6	1649.6	1649.6
2.5°	1649.6	1649.6	1648.1	1648.1	1649.6
5°	1635.8	1637.3	1635.8	1635.8	1634.3
7.5°	1617.5	1617.5	1615.9	1615.9	1615.9
10°	1583.8	1585.3	1585.3	1585.3	1586.9
12.5°	1547.1	1547.1	1547.1	1547.1	1547.1
15°	1496.6	1501.2	1498.1	1501.2	1498.1
17.5°	1446.1	1446.1	1444.5	1447.6	1444.5
20°	1380.3	1380.3	1381.8	1384.9	1384.9
22.5°	1293.0	1308.3	1314.5	1311.4	1296.1
25°	1173.7	1204.3	1239.5	1210.4	1169.1
27.5°	1023.7	1081.9	1163.0	1091.1	1026.8
30°	846.2	933.4	1049.7	936.5	853.9
32.5°	662.6	763.6	918.1	771.2	668.7
35°	501.9	593.7	772.8	599.9	518.7
37.5°	370.3	454.5	613.6	457.5	381.0
40°	264.7	325.9	449.9	332.1	264.7
42.5°	169.9	231.1	316.8	232.6	177.5
45°	102.5	145.4	209.6	148.4	101.0
47.5°	45.9	82.6	130.1	85.7	45.9
50°	7.7	33.7	73.5	35.2	9.2
52.5°	4.6	6.1	35.2	6.1	4.6
55°	3.1	3.1	13.8	3.1	3.1
57.5°	3.1	3.1	3.1	3.1	3.1
60°	3.1	1.5	1.5	1.5	3.1
62.5°	1.5	1.5	1.5	1.5	1.5
65°	1.5	1.5	1.5	1.5	1.5
67.5°	1.5	1.5	1.5	1.5	1.5
70°	1.5	1.5	1.5	1.5	1.5
72.5°	1.5	1.5	1.5	1.5	1.5
75°	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5
80°	0.0	1.5	1.5	1.5	1.5
82.5°	0.0	1.5	1.5	1.5	1.5
85°	0.0	0.0	1.5	1.5	1.5
87.5°	0.0	0.0	1.5	1.5	1.5
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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