

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: P837512

Luminaire Tested: HCSQ435D010-HM43040940-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837512
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ435D010-HM43040940-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

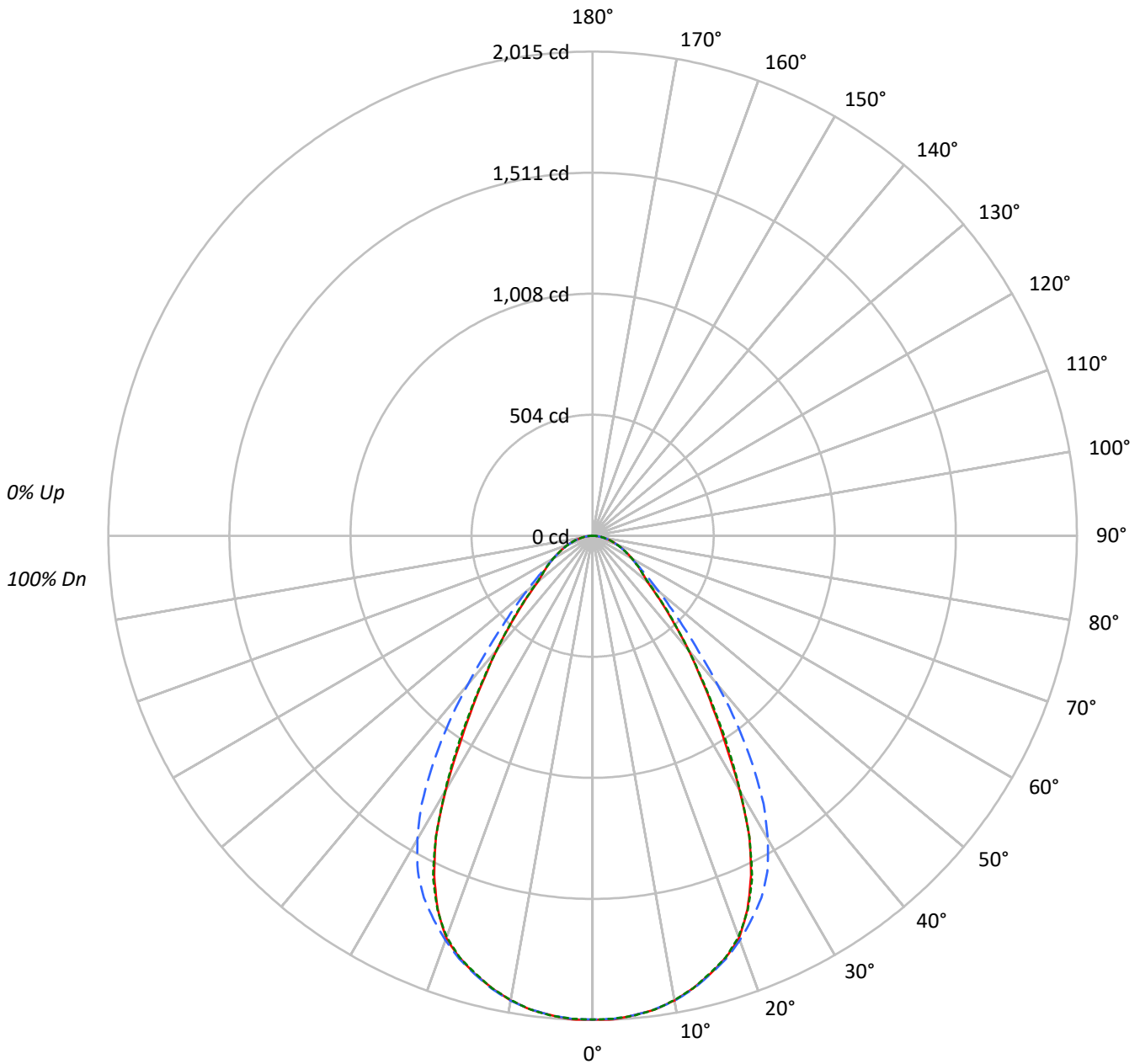
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2921.9 lumens
Efficiency: N/A
Efficacy: 85.9 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
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									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	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71																			
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64																			
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58																			
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48																			
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44																			
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41																			
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	195049	195049	195049
5°	194734	194734	194880
10°	193139	193287	192982
15°	189383	189533	189062
20°	183701	184670	183051
25°	166717	177587	167892
30°	136852	163095	137378
35°	102865	136913	104343
40°	78343	102080	78141
45°	58514	72447	59582
50°	44565	54000	45500
55°	40164	42275	40164
60°	36677	36367	36367
65°	33352	33352	33352
70°	31015	30562	30562
75°	28709	28110	28709
80°	26165	25328	26165
85°	22564	22564	22564

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 72447 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.9	6.5
10°-20°	531.6	18.2
20°-30°	731.1	25.0
30°-40°	622.4	21.3
40°-50°	375.9	12.9
50°-60°	221.6	7.6
60°-70°	145.3	5.0
70°-80°	80.6	2.8
80°-90°	23.6	0.8
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°	1452.6	49.7
0°-40°	2074.9	71.0
0°-60°	2672.4	91.5
0°-90°	2921.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2921.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2013	2013	2013	2013	2013	
5°	2002	2004	2002	2001	2004	190
15°	1888	1893	1890	1888	1885	531
25°	1560	1608	1661	1611	1571	705
35°	870	957	1158	984	882	551
45°	427	472	529	477	435	336
55°	238	242	250	242	238	214
65°	146	147	146	146	146	146
75°	77	77	75	75	77	81
85°	20	20	20	20	20	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2013.4	2013.4	2013.4	2013.4	2013.4
2.5°	2015.0	2010.3	2011.8	2010.3	2011.8
5°	2002.5	2004.0	2002.5	2000.9	2004.0
7.5°	1988.4	1986.8	1986.8	1985.3	1988.4
10°	1963.4	1960.2	1964.9	1961.8	1961.8
12.5°	1928.9	1933.6	1932.1	1932.1	1928.9
15°	1888.3	1893.0	1889.8	1888.3	1885.1
17.5°	1841.3	1844.5	1846.0	1839.8	1839.8
20°	1781.9	1788.1	1791.3	1780.3	1775.6
22.5°	1683.3	1711.5	1728.7	1709.9	1686.4
25°	1559.7	1608.2	1661.4	1611.4	1570.7
27.5°	1411.1	1479.9	1575.4	1490.9	1411.1
30°	1223.4	1325.1	1458.0	1336.0	1228.1
32.5°	1029.4	1137.3	1323.5	1156.1	1051.3
35°	869.8	957.4	1157.7	984.0	882.3
37.5°	732.1	807.2	984.0	824.5	740.0
40°	619.5	679.0	807.2	686.8	617.9
42.5°	511.6	567.9	653.9	575.7	517.8
45°	427.1	472.5	528.8	477.1	434.9
47.5°	355.1	392.7	433.3	392.7	359.8
50°	295.7	325.4	358.3	325.4	301.9
52.5°	264.4	273.8	295.7	275.3	264.4
55°	237.8	242.5	250.3	242.5	237.8
57.5°	212.8	215.9	214.3	214.3	212.8
60°	189.3	190.9	187.7	189.3	187.7
62.5°	167.4	167.4	164.3	167.4	165.8
65°	145.5	147.1	145.5	145.5	145.5
67.5°	126.7	126.7	125.2	126.7	126.7
70°	109.5	109.5	107.9	109.5	107.9
72.5°	92.3	92.3	90.7	90.7	90.7
75°	76.7	76.7	75.1	75.1	76.7
77.5°	61.0	61.0	59.4	61.0	61.0
80°	46.9	46.9	45.4	46.9	46.9
82.5°	32.9	32.9	32.9	34.4	34.4
85°	20.3	20.3	20.3	20.3	20.3
87.5°	9.4	9.4	9.4	9.4	11.0
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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