

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



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: P837353

Luminaire Tested: HCSQ420D010-HM40525827-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837353
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ420D010-HM40525827-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

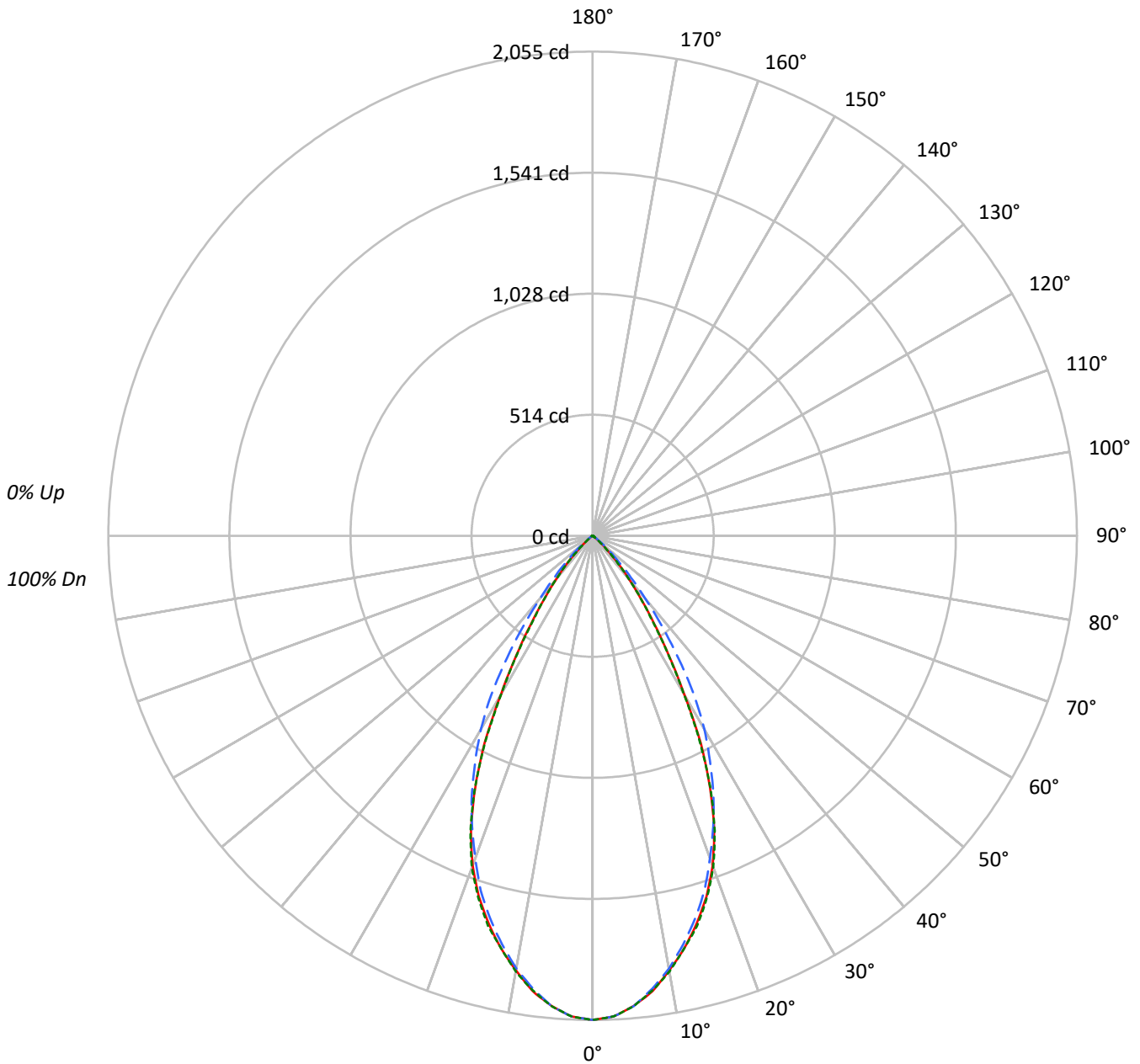
Lumens per Lamp: N/A
Luminaire Lumens: 1660.5 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94								
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87								
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81								
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76								
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71								
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66								
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62								
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58								
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55								
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	199050	199050	199050
5°	194783	194860	194860
10°	184237	183420	184729
15°	170949	168602	171872
20°	153453	150010	154402
25°	126034	129690	126483
30°	87129	105967	86469
35°	53644	74849	52367
40°	30262	43768	30060
45°	13824	21934	13248
50°	3512	8802	3647
55°	1689	2669	1554
60°	1124	969	1298
65°	963	756	963
70°	708	708	935
75°	636	636	936
80°	948	948	948
85°	889	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 21934 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.9	11.3
10°-20°	472.0	28.4
20°-30°	539.6	32.5
30°-40°	335.0	20.2
40°-50°	105.6	6.4
50°-60°	13.7	0.8
60°-70°	4.0	0.2
70°-80°	2.2	0.1
80°-90°	1.5	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°	1198.6	72.2
0°-40°	1533.6	92.4
0°-60°	1652.8	99.5
0°-90°	1660.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1660.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2055	2055	2055	2055	2055	
5°	2003	2001	2004	2002	2004	187
15°	1704	1692	1681	1692	1714	475
25°	1179	1196	1213	1196	1183	529
35°	454	524	633	511	443	292
45°	101	121	160	122	97	85
55°	10	10	16	10	9	10
65°	4	4	3	4	4	4
75°	2	2	2	2	2	2
85°	1	2	2	2	2	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2054.7	2054.7	2054.7	2054.7	2054.7
2.5°	2042.2	2043.9	2042.2	2045.5	2042.2
5°	2003.0	2001.3	2003.8	2002.2	2003.8
7.5°	1949.6	1939.6	1938.8	1945.5	1946.3
10°	1872.9	1870.4	1864.6	1870.4	1877.9
12.5°	1794.5	1784.5	1776.2	1787.9	1794.5
15°	1704.5	1692.0	1681.1	1692.0	1713.7
17.5°	1605.2	1587.7	1578.6	1591.1	1611.9
20°	1488.5	1470.2	1455.1	1466.0	1497.7
22.5°	1348.4	1346.7	1336.7	1342.6	1354.2
25°	1179.1	1195.8	1213.3	1195.8	1183.3
27.5°	993.2	1038.2	1078.2	1025.7	985.7
30°	778.9	847.2	947.3	842.2	773.0
32.5°	602.1	673.8	801.4	664.6	597.1
35°	453.6	523.7	632.9	511.2	442.8
37.5°	333.6	386.1	481.2	382.8	333.6
40°	239.3	273.5	346.1	272.7	237.7
42.5°	165.9	188.5	241.8	186.8	160.9
45°	100.9	120.9	160.1	121.7	96.7
47.5°	53.4	76.7	100.9	73.4	53.4
50°	23.3	40.9	58.4	40.0	24.2
52.5°	12.5	17.5	31.7	17.5	12.5
55°	10.0	10.0	15.8	10.0	9.2
57.5°	7.5	7.5	8.3	7.5	7.5
60°	5.8	5.8	5.0	5.8	6.7
62.5°	5.0	5.0	4.2	5.0	5.0
65°	4.2	4.2	3.3	4.2	4.2
67.5°	3.3	3.3	3.3	3.3	3.3
70°	2.5	2.5	2.5	3.3	3.3
72.5°	2.5	2.5	2.5	2.5	2.5
75°	1.7	1.7	1.7	1.7	2.5
77.5°	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7
82.5°	0.8	1.7	1.7	1.7	1.7
85°	0.8	1.7	1.7	1.7	1.7
87.5°	0.8	0.8	1.7	1.7	1.7
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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