

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: P837323

Luminaire Tested: HCSQ415D010-HM40525835-41SQC

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837323
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: HCSQ415D010-HM40525835-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: -

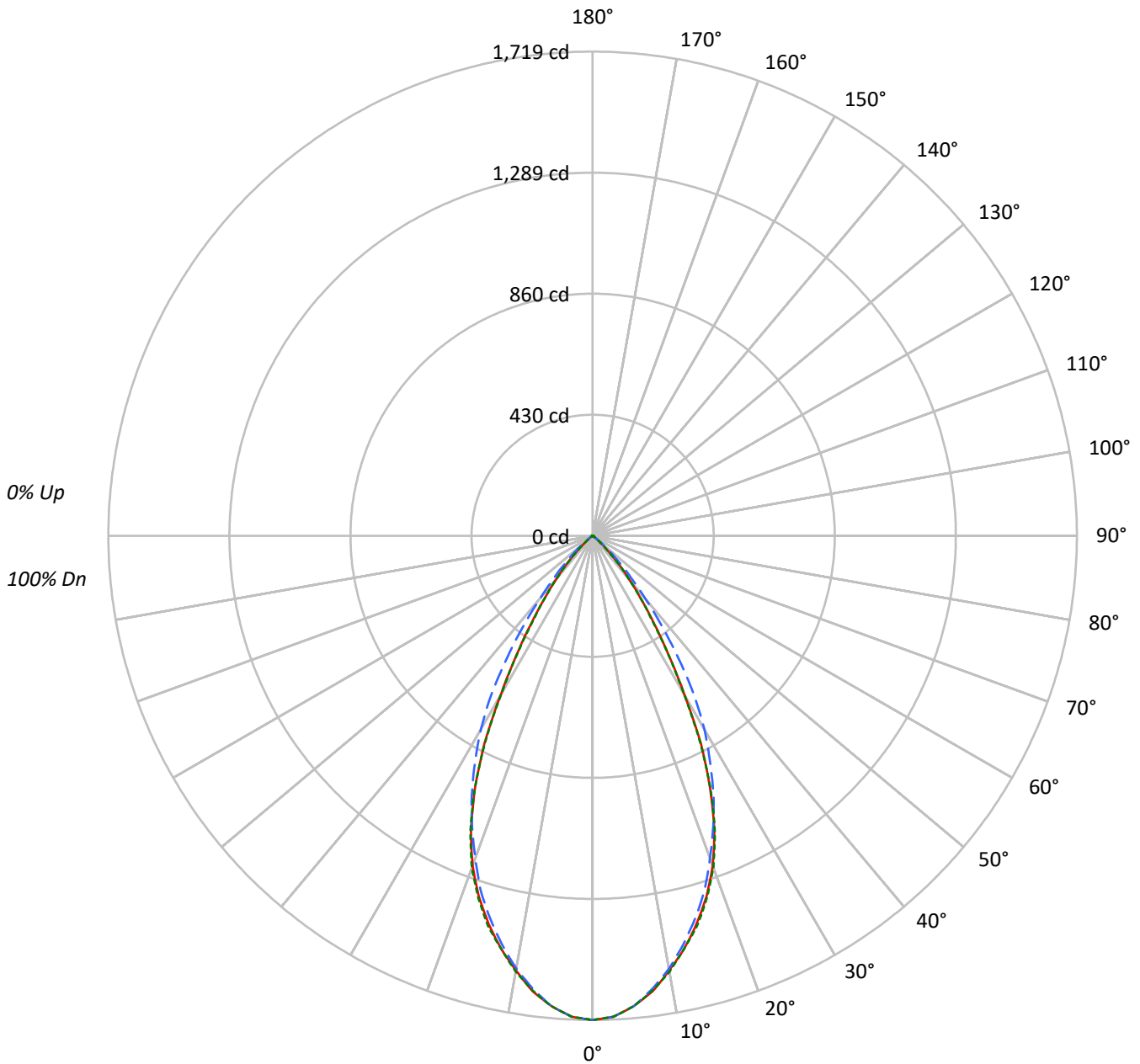
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1389.4 lumens
Efficiency: N/A
Efficacy: 99.2 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): 14
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°	166558	166558	166558
5°	162983	163051	163051
10°	154155	153477	154569
15°	143038	141082	143810
20°	128402	125526	129196
25°	105458	108515	105832
30°	72901	88662	72352
35°	44893	62632	43816
40°	25330	36623	25153
45°	11563	18358	11084
50°	2939	7355	3044
55°	1419	2246	1301
60°	949	814	1085
65°	802	642	802
70°	595	595	793
75°	524	524	786
80°	781	781	781
85°	778	1556	1556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 18358 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.4	11.3
10°-20°	395.0	28.4
20°-30°	451.5	32.5
30°-40°	280.3	20.2
40°-50°	88.3	6.4
50°-60°	11.5	0.8
60°-70°	3.4	0.2
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°	1002.9	72.2
0°-40°	1283.2	92.4
0°-60°	1383.0	99.5
0°-90°	1389.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1389.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1676	1675	1677	1675	1677	157
15°	1426	1416	1407	1416	1434	398
25°	987	1001	1015	1001	990	443
35°	380	438	530	428	370	244
45°	84	101	134	102	81	71
55°	8	8	13	8	8	8
65°	4	4	3	4	4	3
75°	1	1	1	1	2	2
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1719.3	1719.3	1719.3	1719.3	1719.3
2.5°	1708.8	1710.2	1708.8	1711.6	1708.8
5°	1676.0	1674.6	1676.7	1675.3	1676.7
7.5°	1631.3	1623.0	1622.3	1627.8	1628.5
10°	1567.1	1565.0	1560.2	1565.0	1571.3
12.5°	1501.6	1493.2	1486.2	1496.0	1501.6
15°	1426.2	1415.7	1406.7	1415.7	1433.9
17.5°	1343.2	1328.5	1320.8	1331.3	1348.7
20°	1245.5	1230.1	1217.6	1226.6	1253.2
22.5°	1128.3	1126.9	1118.5	1123.4	1133.1
25°	986.6	1000.6	1015.2	1000.6	990.1
27.5°	831.0	868.7	902.2	858.2	824.7
30°	651.7	708.9	792.6	704.7	646.8
32.5°	503.8	563.8	670.5	556.1	499.6
35°	379.6	438.2	529.6	427.7	370.5
37.5°	279.1	323.1	402.6	320.3	279.1
40°	200.3	228.9	289.6	228.2	198.9
42.5°	138.9	157.7	202.3	156.3	134.7
45°	84.4	101.2	134.0	101.9	80.9
47.5°	44.7	64.2	84.4	61.4	44.7
50°	19.5	34.2	48.8	33.5	20.2
52.5°	10.5	14.7	26.5	14.7	10.5
55°	8.4	8.4	13.3	8.4	7.7
57.5°	6.3	6.3	7.0	6.3	6.3
60°	4.9	4.9	4.2	4.9	5.6
62.5°	4.2	4.2	3.5	4.2	4.2
65°	3.5	3.5	2.8	3.5	3.5
67.5°	2.8	2.8	2.8	2.8	2.8
70°	2.1	2.1	2.1	2.8	2.8
72.5°	2.1	2.1	2.1	2.1	2.1
75°	1.4	1.4	1.4	1.4	2.1
77.5°	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4
82.5°	0.7	1.4	1.4	1.4	1.4
85°	0.7	1.4	1.4	1.4	1.4
87.5°	0.7	0.7	1.4	1.4	1.4
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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