

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: P837636

Luminaire Tested: HCSQ455D010-HM44560827-41SQMB

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837636
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: HCSQ455D010-HM44560827-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

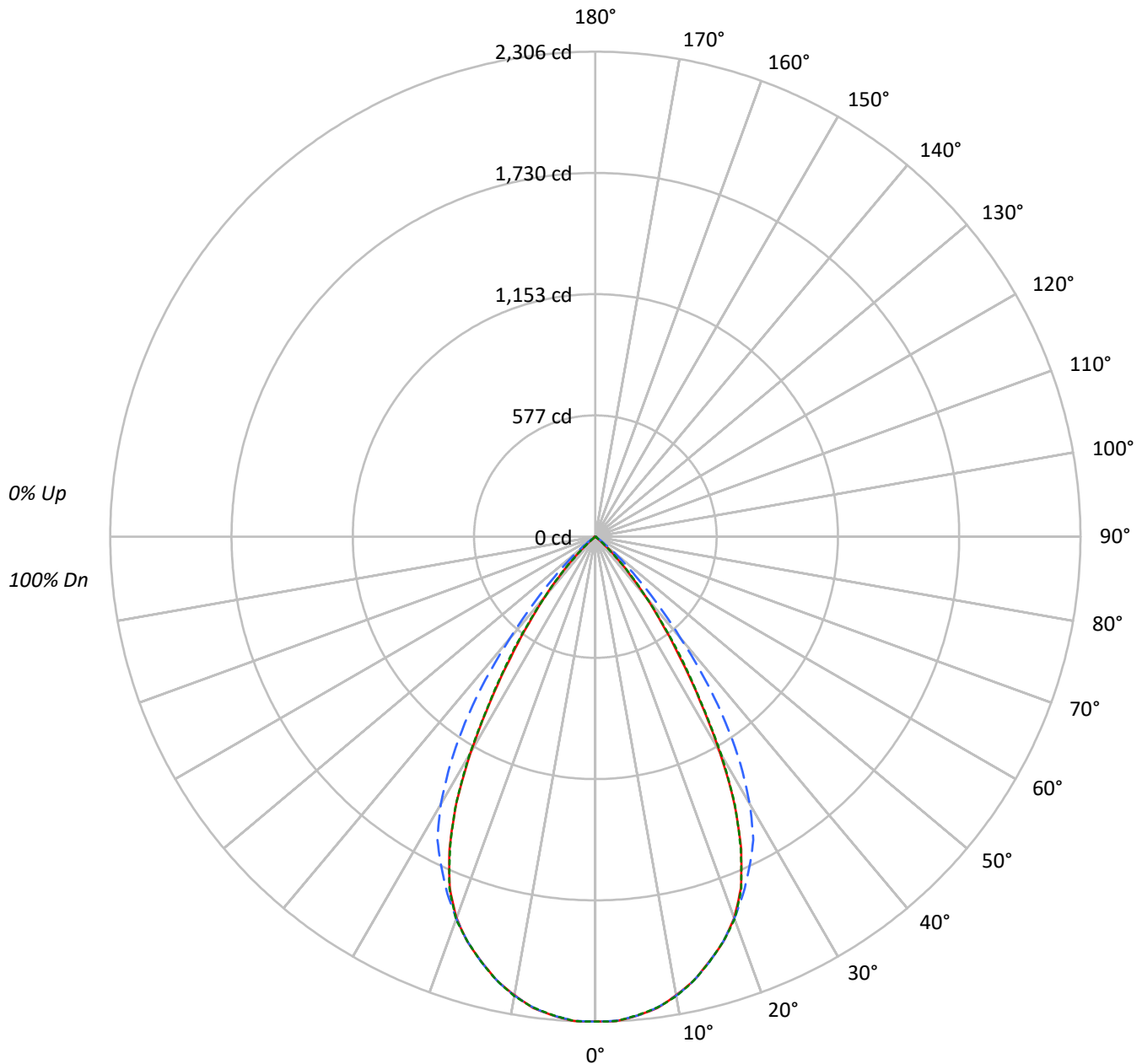
Lumens per Lamp: N/A
Luminaire Lumens: 2303.4 lumens
Efficiency: N/A
Efficacy: 42.7 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 54
Input Voltage (V): NR
Input Current (Ain): 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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	223395	223395	223395
5°	222381	222381	222167
10°	217791	218007	218214
15°	209823	210033	210033
20°	198917	199144	199577
25°	175375	185209	174691
30°	132333	164158	133519
35°	82973	127760	85764
40°	46804	79532	46804
45°	19632	40155	19345
50°	1613	15478	1929
55°	726	3260	726
60°	833	407	833
65°	481	481	481
70°	595	595	595
75°	786	786	786
80°	0	1172	1172
85°	0	2334	2334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 40155 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.1	9.4
10°-20°	588.0	25.5
20°-30°	762.7	33.1
30°-40°	542.3	23.5
40°-50°	175.8	7.6
50°-60°	12.7	0.6
60°-70°	2.2	0.1
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°	1566.8	68.0
0°-40°	2109.1	91.6
0°-60°	2297.6	99.7
0°-90°	2303.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2303.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2306	2306	2306	2306	2306	
5°	2287	2289	2287	2287	2285	216
15°	2092	2098	2094	2098	2094	588
25°	1641	1684	1733	1692	1634	735
35°	702	830	1080	838	725	449
45°	143	203	293	208	141	119
55°	4	4	19	4	4	5
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°	2306.0	2306.0	2306.0	2306.0	2306.0
2.5°	2306.0	2306.0	2303.9	2303.9	2306.0
5°	2286.8	2288.9	2286.8	2286.8	2284.6
7.5°	2261.1	2261.1	2258.9	2258.9	2258.9
10°	2214.0	2216.2	2216.2	2216.2	2218.3
12.5°	2162.7	2162.7	2162.7	2162.7	2162.7
15°	2092.1	2098.5	2094.2	2098.5	2094.2
17.5°	2021.5	2021.5	2019.4	2023.6	2019.4
20°	1929.5	1929.5	1931.7	1935.9	1935.9
22.5°	1807.6	1829.0	1837.5	1833.3	1811.9
25°	1640.7	1683.5	1732.7	1692.1	1634.3
27.5°	1431.1	1512.4	1625.8	1525.2	1435.4
30°	1183.0	1304.9	1467.5	1309.2	1193.6
32.5°	926.3	1067.4	1283.5	1078.1	934.8
35°	701.6	830.0	1080.3	838.5	725.2
37.5°	517.7	635.3	857.8	639.6	532.6
40°	370.1	455.6	628.9	464.2	370.1
42.5°	237.4	323.0	442.8	325.2	248.1
45°	143.3	203.2	293.1	207.5	141.2
47.5°	64.2	115.5	181.8	119.8	64.2
50°	10.7	47.1	102.7	49.2	12.8
52.5°	6.4	8.6	49.2	8.6	6.4
55°	4.3	4.3	19.3	4.3	4.3
57.5°	4.3	4.3	4.3	4.3	4.3
60°	4.3	2.1	2.1	2.1	4.3
62.5°	2.1	2.1	2.1	2.1	2.1
65°	2.1	2.1	2.1	2.1	2.1
67.5°	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1
72.5°	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	0.0	2.1	2.1	2.1	2.1
82.5°	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	2.1	2.1	2.1
87.5°	0.0	0.0	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







(END OF REPORT)