

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: P837553

Luminaire Tested: HCSQ445D010-HM44560827-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837553
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: HCSQ445D010-HM44560827-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

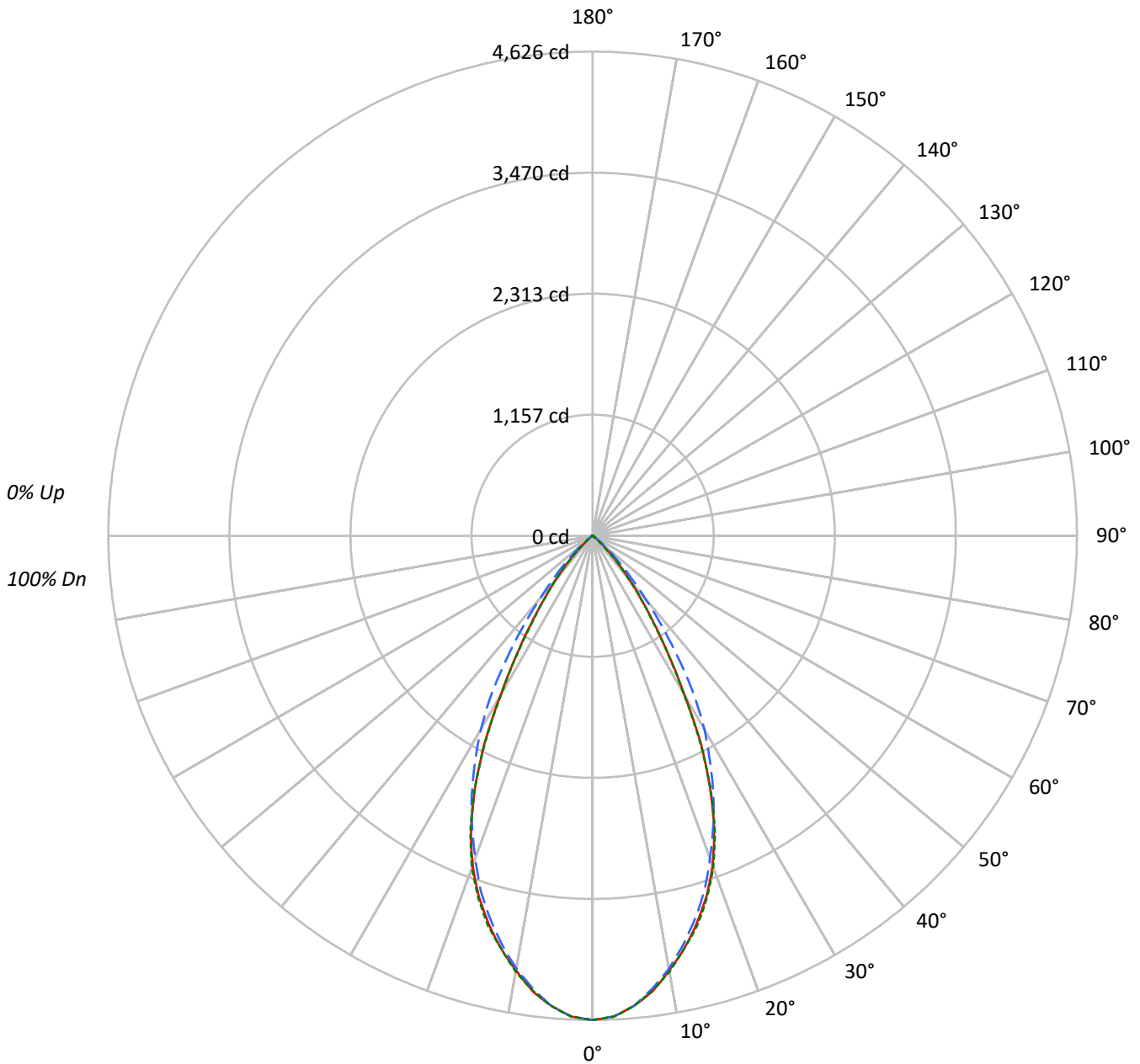
Lumens per Lamp: N/A
Luminaire Lumens: 3738.5 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 45.9
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					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°	448155	448155	448155
5°	438548	438733	438733
10°	414806	412967	415918
15°	384884	379608	386950
20°	345494	337752	347629
25°	283772	292003	284777
30°	196161	238580	194685
35°	120794	168525	117896
40°	68138	98539	67670
45°	31127	49389	29839
50°	7927	19803	8199
55°	3800	6030	3496
60°	2538	2189	2906
65°	2155	1719	2155
70°	1586	1586	2124
75°	1422	1422	2096
80°	2120	2120	2120
85°	2112	4224	4224

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 49389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	420.8	11.3
10°-20°	1062.8	28.4
20°-30°	1215.0	32.5
30°-40°	754.2	20.2
40°-50°	237.7	6.4
50°-60°	30.8	0.8
60°-70°	9.1	0.2
70°-80°	4.9	0.1
80°-90°	3.3	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°	2698.6	72.2
0°-40°	3452.8	92.4
0°-60°	3721.2	99.5
0°-90°	3738.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3738.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4626	4626	4626	4626	4626	
5°	4510	4506	4512	4508	4512	421
15°	3838	3809	3785	3809	3858	1070
25°	2655	2692	2732	2692	2664	1191
35°	1021	1179	1425	1151	997	656
45°	227	272	360	274	218	192
55°	22	22	36	22	21	22
65°	9	9	8	9	9	9
75°	4	4	4	4	6	5
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4626.1	4626.1	4626.1	4626.1	4626.1
2.5°	4598.0	4601.7	4598.0	4605.5	4598.0
5°	4509.7	4506.0	4511.6	4507.9	4511.6
7.5°	4389.6	4367.0	4365.2	4380.2	4382.1
10°	4216.8	4211.2	4198.1	4211.2	4228.1
12.5°	4040.4	4017.8	3999.1	4025.3	4040.4
15°	3837.6	3809.4	3785.0	3809.4	3858.2
17.5°	3614.2	3574.7	3554.1	3582.3	3629.2
20°	3351.3	3310.0	3276.2	3300.6	3372.0
22.5°	3035.9	3032.2	3009.6	3022.8	3049.0
25°	2654.8	2692.3	2731.8	2692.3	2664.2
27.5°	2236.1	2337.5	2427.6	2309.3	2219.2
30°	1753.6	1907.5	2132.8	1896.3	1740.4
32.5°	1355.6	1517.0	1804.3	1496.4	1344.3
35°	1021.4	1179.1	1425.0	1150.9	996.9
37.5°	751.0	869.3	1083.3	861.8	751.0
40°	538.8	615.8	779.2	613.9	535.1
42.5°	373.6	424.3	544.5	420.6	362.4
45°	227.2	272.2	360.5	274.1	217.8
47.5°	120.2	172.7	227.2	165.2	120.2
50°	52.6	92.0	131.4	90.1	54.4
52.5°	28.2	39.4	71.3	39.4	28.2
55°	22.5	22.5	35.7	22.5	20.7
57.5°	16.9	16.9	18.8	16.9	16.9
60°	13.1	13.1	11.3	13.1	15.0
62.5°	11.3	11.3	9.4	11.3	11.3
65°	9.4	9.4	7.5	9.4	9.4
67.5°	7.5	7.5	7.5	7.5	7.5
70°	5.6	5.6	5.6	7.5	7.5
72.5°	5.6	5.6	5.6	5.6	5.6
75°	3.8	3.8	3.8	3.8	5.6
77.5°	3.8	3.8	3.8	3.8	3.8
80°	3.8	3.8	3.8	3.8	3.8
82.5°	1.9	3.8	3.8	3.8	3.8
85°	1.9	3.8	3.8	3.8	3.8
87.5°	1.9	1.9	3.8	3.8	3.8
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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