

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: P837556

Luminaire Tested: HCSQ445D010-HM44560827-41SQMB

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837556
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: HCSQ445D010-HM44560827-41SQMB
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

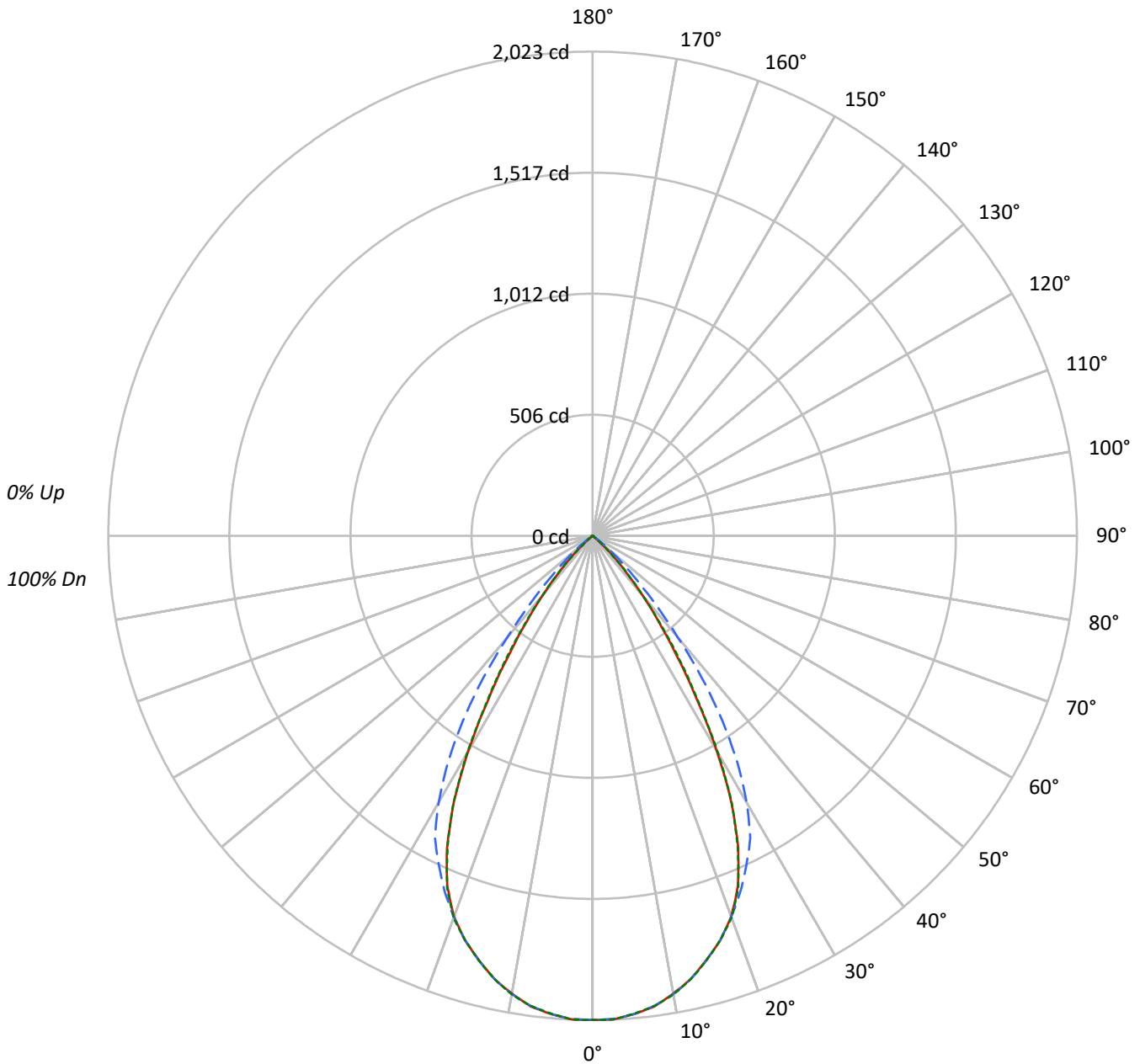
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2020.5 lumens
Efficiency: N/A
Efficacy: 44.0 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): 45.9
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	50	30	10	0		
RCR	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100		
	1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	87	87	87	87	87		
	3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74	74	74	74	74	74		
	5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69	69	69	69	69	69		
	6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64	64	64	64	64	64		
	7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60	60	60	60	60	60		
	8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56	56	56	56	56	56		
	9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52	52	52	52	52	52		
	10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49	49	49	49	49	49		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	195940	195940	195940
5°	195045	195045	194860
10°	191024	191211	191398
15°	184037	184218	184218
20°	174474	174660	175051
25°	153826	162441	153216
30°	116068	143978	117108
35°	72779	112054	75215
40°	41050	69756	41050
45°	17221	35210	16961
50°	1417	13579	1703
55°	642	2854	642
60°	736	368	736
65°	436	436	436
70°	538	538	538
75°	711	711	711
80°	0	1060	1060
85°	0	2112	2112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 35210 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.6	9.4
10°-20°	515.7	25.5
20°-30°	669.0	33.1
30°-40°	475.6	23.5
40°-50°	154.2	7.6
50°-60°	11.2	0.6
60°-70°	1.9	0.1
70°-80°	2.0	0.1
80°-90°	1.3	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°	1374.2	68.0
0°-40°	1849.8	91.6
0°-60°	2015.2	99.7
0°-90°	2020.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2020.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2023	2023	2023	2023	2023	
5°	2006	2008	2006	2006	2004	190
15°	1835	1841	1837	1841	1837	515
25°	1439	1477	1520	1484	1433	644
35°	615	728	948	736	636	394
45°	126	178	257	182	124	105
55°	4	4	17	4	4	4
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°	2022.6	2022.6	2022.6	2022.6	2022.6
2.5°	2022.6	2022.6	2020.7	2020.7	2022.6
5°	2005.7	2007.6	2005.7	2005.7	2003.8
7.5°	1983.2	1983.2	1981.3	1981.3	1981.3
10°	1941.9	1943.8	1943.8	1943.8	1945.7
12.5°	1896.9	1896.9	1896.9	1896.9	1896.9
15°	1835.0	1840.6	1836.8	1840.6	1836.8
17.5°	1773.0	1773.0	1771.2	1774.9	1771.2
20°	1692.4	1692.4	1694.2	1698.0	1698.0
22.5°	1585.4	1604.2	1611.7	1607.9	1589.2
25°	1439.1	1476.6	1519.7	1484.1	1433.4
27.5°	1255.2	1326.5	1425.9	1337.8	1259.0
30°	1037.6	1144.5	1287.1	1148.3	1046.9
32.5°	812.4	936.2	1125.7	945.6	819.9
35°	615.4	728.0	947.5	735.5	636.0
37.5°	454.0	557.2	752.4	561.0	467.2
40°	324.6	399.6	551.6	407.1	324.6
42.5°	208.3	283.3	388.4	285.2	217.6
45°	125.7	178.2	257.0	182.0	123.8
47.5°	56.3	101.3	159.5	105.1	56.3
50°	9.4	41.3	90.1	43.2	11.3
52.5°	5.6	7.5	43.2	7.5	5.6
55°	3.8	3.8	16.9	3.8	3.8
57.5°	3.8	3.8	3.8	3.8	3.8
60°	3.8	1.9	1.9	1.9	3.8
62.5°	1.9	1.9	1.9	1.9	1.9
65°	1.9	1.9	1.9	1.9	1.9
67.5°	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.9	1.9
72.5°	1.9	1.9	1.9	1.9	1.9
75°	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9
80°	0.0	1.9	1.9	1.9	1.9
82.5°	0.0	1.9	1.9	1.9	1.9
85°	0.0	0.0	1.9	1.9	1.9
87.5°	0.0	0.0	1.9	1.9	1.9
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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