

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: P837469

Luminaire Tested: HCSQ430D010-HM43040940-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837469
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ430D010-HM43040940-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

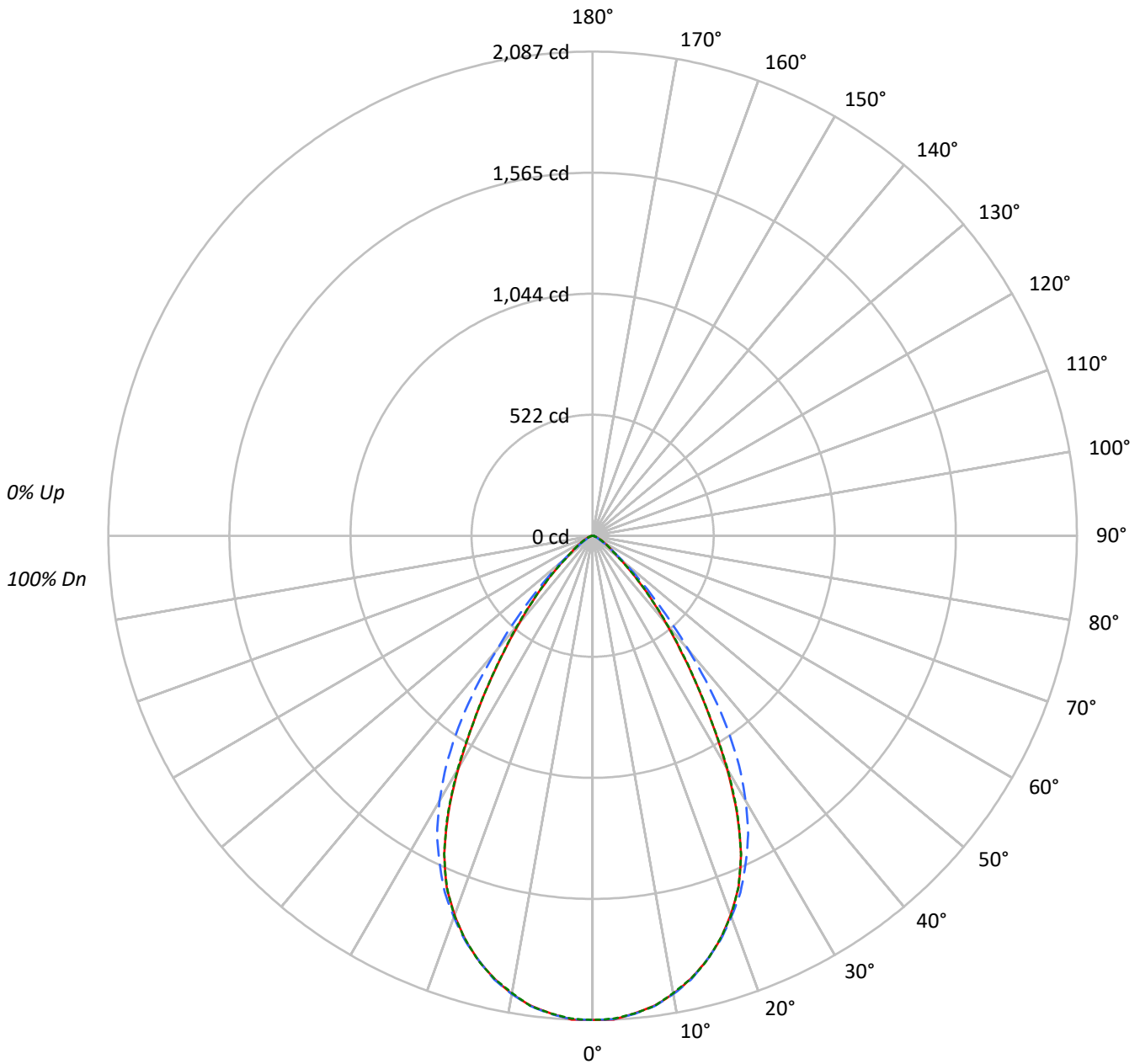
Lumens per Lamp: N/A
Luminaire Lumens: 2346.1 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
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									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			100																
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92			92																
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85			85																
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77			77																
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71			71																
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65			65																
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60			60																
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56			56																
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52			52																
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48			48																
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45			45																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	202189	202189	202189
5°	200958	201201	200958
10°	197192	197320	196809
15°	190185	190055	190316
20°	179278	180216	179680
25°	161768	166727	161768
30°	129212	147524	130219
35°	92233	119375	92387
40°	62270	81189	63256
45°	39566	48033	39744
50°	22531	25651	21763
55°	14812	12414	14593
60°	10249	7246	9998
65°	7083	5318	7083
70°	5098	4022	5098
75°	3369	3369	3369
80°	2176	2901	2901
85°	2890	2890	2890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 48033 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.5	8.3
10°-20°	531.7	22.7
20°-30°	696.1	29.7
30°-40°	547.1	23.3
40°-50°	255.5	10.9
50°-60°	79.2	3.4
60°-70°	28.3	1.2
70°-80°	9.9	0.4
80°-90°	2.8	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°	1423.3	60.7
0°-40°	1970.4	84.0
0°-60°	2305.1	98.3
0°-90°	2346.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2346.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2066	2068	2069	2072	2066	195
15°	1896	1896	1895	1896	1898	531
25°	1513	1534	1560	1535	1513	681
35°	780	851	1009	861	781	492
45°	289	324	351	317	290	230
55°	88	82	74	81	86	82
65°	31	28	23	27	31	32
75°	9	9	9	9	9	10
85°	3	3	3	3	3	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2087.1	2087.1	2087.1	2087.1	2087.1
2.5°	2087.1	2084.5	2085.8	2083.2	2083.2
5°	2066.5	2067.8	2069.0	2071.6	2066.5
7.5°	2043.3	2045.8	2044.6	2044.6	2044.6
10°	2004.6	2005.9	2005.9	2005.9	2000.7
12.5°	1955.6	1958.2	1959.5	1955.6	1955.6
15°	1896.3	1896.3	1895.0	1896.3	1897.6
17.5°	1825.4	1829.3	1829.3	1825.4	1824.1
20°	1739.0	1745.5	1748.1	1742.9	1742.9
22.5°	1642.3	1648.8	1664.3	1651.4	1641.1
25°	1513.4	1534.1	1559.8	1535.3	1513.4
27.5°	1347.1	1392.3	1451.6	1400.0	1351.0
30°	1155.1	1228.5	1318.8	1232.4	1164.1
32.5°	959.1	1041.6	1174.4	1048.1	959.1
35°	779.9	850.8	1009.4	861.1	781.2
37.5°	620.1	688.4	827.6	696.1	629.1
40°	492.4	547.9	642.0	546.6	500.2
42.5°	384.2	424.1	486.0	422.8	382.9
45°	288.8	323.6	350.6	317.1	290.1
47.5°	212.7	235.9	251.4	232.0	207.5
50°	149.5	166.3	170.2	162.4	144.4
52.5°	112.2	112.2	113.4	110.9	109.6
55°	87.7	82.5	73.5	81.2	86.4
57.5°	68.3	63.2	51.6	60.6	67.0
60°	52.9	47.7	37.4	46.4	51.6
62.5°	41.3	36.1	29.6	36.1	40.0
65°	30.9	28.4	23.2	27.1	30.9
67.5°	23.2	20.6	18.0	20.6	23.2
70°	18.0	16.8	14.2	15.5	18.0
72.5°	12.9	11.6	11.6	11.6	12.9
75°	9.0	9.0	9.0	9.0	9.0
77.5°	6.4	6.4	6.4	6.4	6.4
80°	3.9	3.9	5.2	5.2	5.2
82.5°	2.6	2.6	3.9	3.9	3.9
85°	2.6	2.6	2.6	2.6	2.6
87.5°	1.3	1.3	1.3	2.6	2.6
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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