

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: P837279

Luminaire Tested: HCSQ410D010-HM40525830-41SQH

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837279
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: HCSQ410D010-HM40525830-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: -

Summary

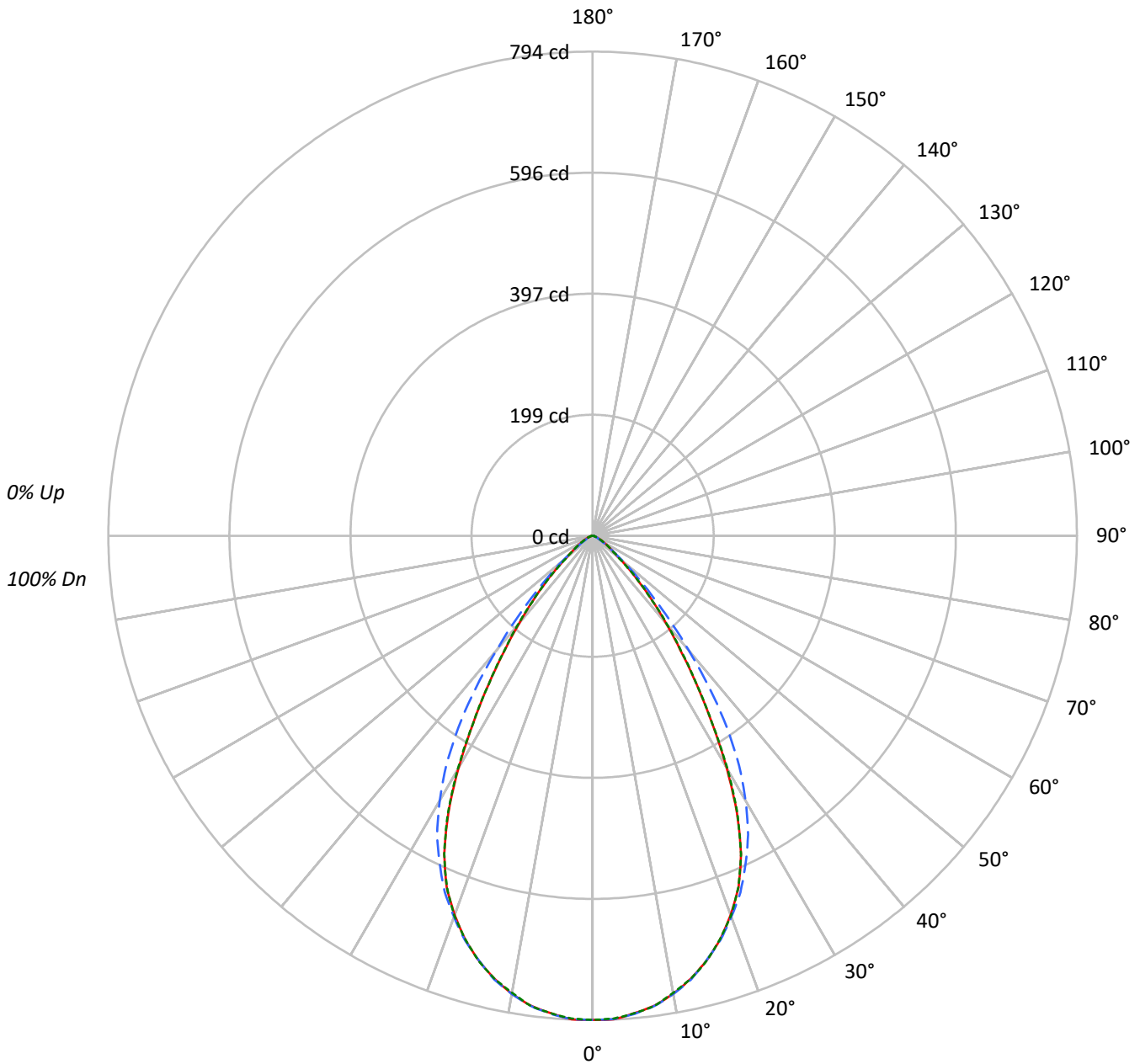
Lumens per Lamp: N/A
Luminaire Lumens: 892.5 lumens
Efficiency: N/A
Efficacy: 90.2 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
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									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	54	50	46	45				45															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	76919	76919	76919
5°	76445	76542	76445
10°	75017	75066	74869
15°	72351	72301	72401
20°	68206	68557	68350
25°	61537	63429	61537
30°	49152	56121	49533
35°	35089	45413	35148
40°	23686	30882	24066
45°	15057	18276	15111
50°	8575	9751	8274
55°	5624	4729	5557
60°	3894	2751	3798
65°	2705	2017	2705
70°	1954	1530	1954
75°	1273	1273	1273
80°	837	1116	1116
85°	1112	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 18276 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.4	8.3
10°-20°	202.3	22.7
20°-30°	264.8	29.7
30°-40°	208.1	23.3
40°-50°	97.2	10.9
50°-60°	30.1	3.4
60°-70°	10.7	1.2
70°-80°	3.8	0.4
80°-90°	1.1	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°	541.4	60.7
0°-40°	749.6	84.0
0°-60°	876.9	98.3
0°-90°	892.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	892.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	786	787	787	788	786	74
15°	721	721	721	721	722	202
25°	576	584	593	584	576	259
35°	297	324	384	328	297	187
45°	110	123	133	121	110	87
55°	33	31	28	31	33	31
65°	12	11	9	10	12	12
75°	3	3	3	3	3	4
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°	794.0	794.0	794.0	794.0	794.0
2.5°	794.0	793.0	793.5	792.5	792.5
5°	786.1	786.6	787.1	788.1	786.1
7.5°	777.3	778.3	777.8	777.8	777.8
10°	762.6	763.1	763.1	763.1	761.1
12.5°	744.0	744.9	745.4	744.0	744.0
15°	721.4	721.4	720.9	721.4	721.9
17.5°	694.4	695.9	695.9	694.4	693.9
20°	661.6	664.0	665.0	663.0	663.0
22.5°	624.8	627.2	633.1	628.2	624.3
25°	575.7	583.6	593.4	584.1	575.7
27.5°	512.5	529.6	552.2	532.6	514.0
30°	439.4	467.4	501.7	468.8	442.8
32.5°	364.9	396.3	446.8	398.7	364.9
35°	296.7	323.7	384.0	327.6	297.2
37.5°	235.9	261.9	314.8	264.8	239.3
40°	187.3	208.4	244.2	207.9	190.3
42.5°	146.1	161.3	184.9	160.9	145.7
45°	109.9	123.1	133.4	120.6	110.3
47.5°	80.9	89.7	95.6	88.3	79.0
50°	56.9	63.3	64.7	61.8	54.9
52.5°	42.7	42.7	43.2	42.2	41.7
55°	33.3	31.4	28.0	30.9	32.9
57.5°	26.0	24.0	19.6	23.0	25.5
60°	20.1	18.1	14.2	17.7	19.6
62.5°	15.7	13.7	11.3	13.7	15.2
65°	11.8	10.8	8.8	10.3	11.8
67.5°	8.8	7.8	6.9	7.8	8.8
70°	6.9	6.4	5.4	5.9	6.9
72.5°	4.9	4.4	4.4	4.4	4.9
75°	3.4	3.4	3.4	3.4	3.4
77.5°	2.5	2.5	2.5	2.5	2.5
80°	1.5	1.5	2.0	2.0	2.0
82.5°	1.0	1.0	1.5	1.5	1.5
85°	1.0	1.0	1.0	1.0	1.0
87.5°	0.5	0.5	0.5	1.0	1.0
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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