

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: P837377

Luminaire Tested: HCSQ420D010-HM40525927-41SQMW

Issue Date: 5/17/2024



Test Information

Test Method: LM-79-2019
Report Number: P837377
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ420D010-HM40525927-41SQMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

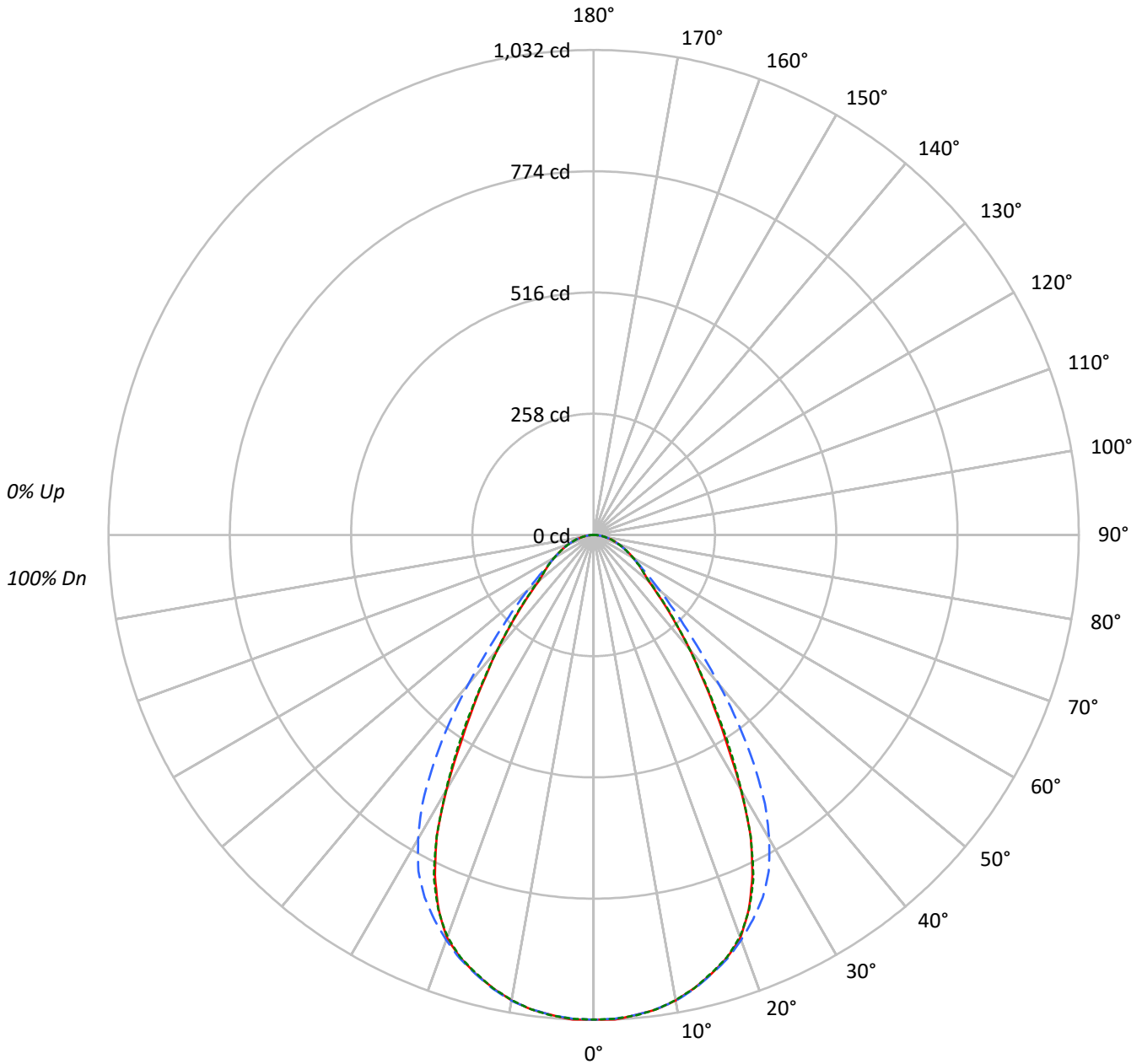
Lumens per Lamp: N/A
Luminaire Lumens: 1496.7 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	99908	99908	99908
5°	99745	99745	99822
10°	98931	99009	98852
15°	97003	97083	96843
20°	94093	94588	93763
25°	85395	90964	85993
30°	70093	83539	70361
35°	52686	70130	53455
40°	40126	52292	40025
45°	29976	37100	30524
50°	22833	27656	23315
55°	20572	21653	20572
60°	18794	18639	18639
65°	17077	17077	17077
70°	15890	15663	15663
75°	14710	14410	14710
80°	13389	12943	13389
85°	11560	11560	11560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 37100 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.3	6.5
10°-20°	272.3	18.2
20°-30°	374.5	25.0
30°-40°	318.8	21.3
40°-50°	192.6	12.9
50°-60°	113.5	7.6
60°-70°	74.4	5.0
70°-80°	41.3	2.8
80°-90°	12.1	0.8
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°	744.0	49.7
0°-40°	1062.8	71.0
0°-60°	1368.9	91.5
0°-90°	1496.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1496.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1031	1031	1031	1031	1031	
5°	1026	1026	1026	1025	1026	97
15°	967	970	968	967	966	272
25°	799	824	851	825	804	361
35°	446	490	593	504	452	282
45°	219	242	271	244	223	172
55°	122	124	128	124	122	110
65°	74	75	74	74	74	75
75°	39	39	38	38	39	42
85°	10	10	10	10	10	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1031.3	1031.3	1031.3	1031.3	1031.3
2.5°	1032.1	1029.7	1030.5	1029.7	1030.5
5°	1025.7	1026.5	1025.7	1024.9	1026.5
7.5°	1018.5	1017.7	1017.7	1016.9	1018.5
10°	1005.7	1004.1	1006.5	1004.9	1004.9
12.5°	988.0	990.4	989.6	989.6	988.0
15°	967.2	969.6	968.0	967.2	965.6
17.5°	943.2	944.8	945.6	942.4	942.4
20°	912.7	915.9	917.5	911.9	909.5
22.5°	862.2	876.7	885.5	875.9	863.8
25°	798.9	823.8	851.0	825.4	804.5
27.5°	722.8	758.1	806.9	763.7	722.8
30°	626.6	678.7	746.8	684.3	629.0
32.5°	527.3	582.6	677.9	592.2	538.5
35°	445.5	490.4	593.0	504.0	452.0
37.5°	375.0	413.5	504.0	422.3	379.0
40°	317.3	347.8	413.5	351.8	316.5
42.5°	262.0	290.9	335.0	294.9	265.2
45°	218.8	242.0	270.8	244.4	222.8
47.5°	181.9	201.1	222.0	201.1	184.3
50°	151.5	166.7	183.5	166.7	154.7
52.5°	135.4	140.2	151.5	141.0	135.4
55°	121.8	124.2	128.2	124.2	121.8
57.5°	109.0	110.6	109.8	109.8	109.0
60°	97.0	97.8	96.2	97.0	96.2
62.5°	85.7	85.7	84.1	85.7	84.9
65°	74.5	75.3	74.5	74.5	74.5
67.5°	64.9	64.9	64.1	64.9	64.9
70°	56.1	56.1	55.3	56.1	55.3
72.5°	47.3	47.3	46.5	46.5	46.5
75°	39.3	39.3	38.5	38.5	39.3
77.5°	31.3	31.3	30.5	31.3	31.3
80°	24.0	24.0	23.2	24.0	24.0
82.5°	16.8	16.8	16.8	17.6	17.6
85°	10.4	10.4	10.4	10.4	10.4
87.5°	4.8	4.8	4.8	4.8	5.6
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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