

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: P837235

Luminaire Tested: HCSQ407D010-HM40525827-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837235
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ407D010-HM40525827-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

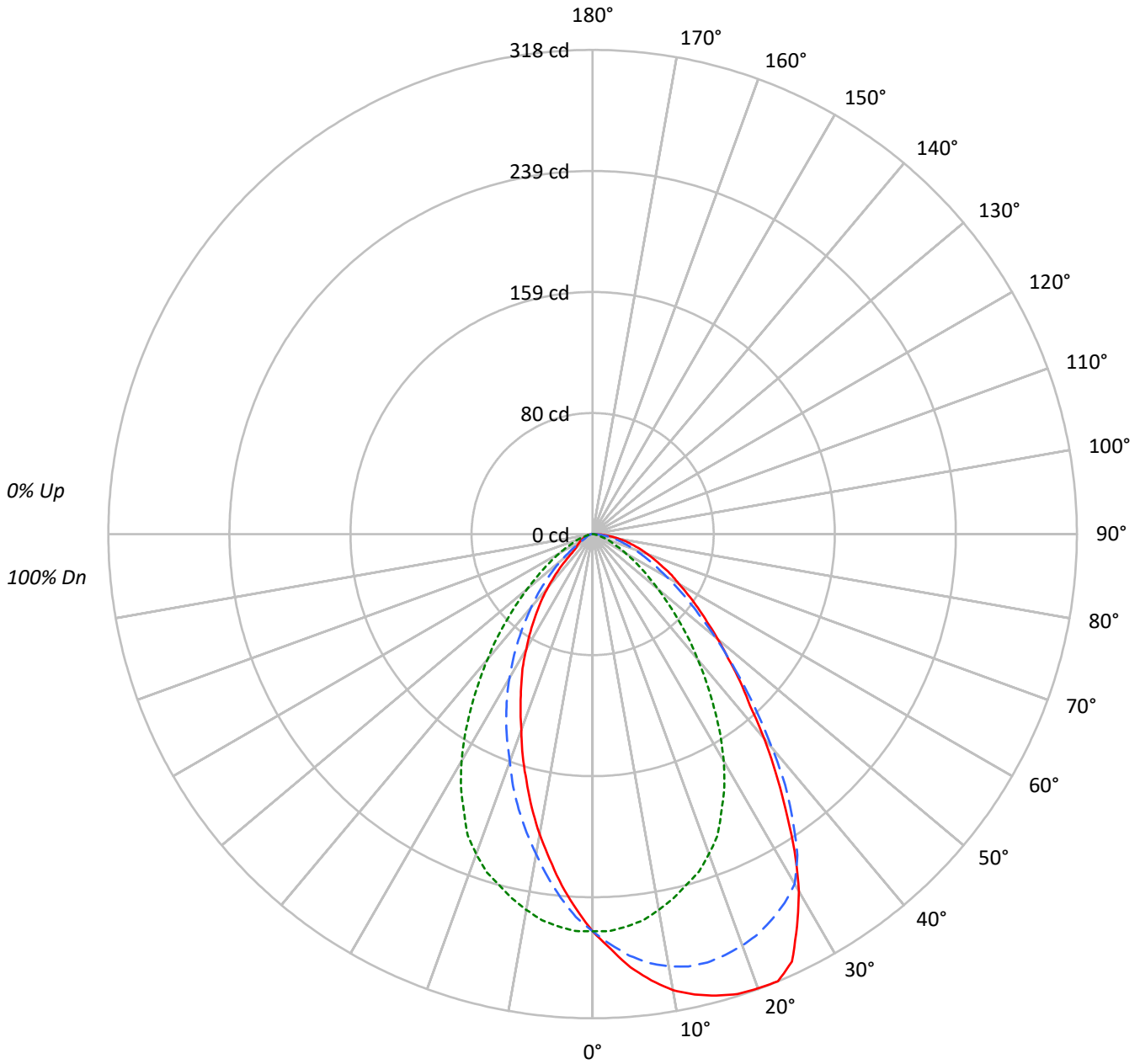
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 422.0 lumens
Efficiency: N/A
Efficacy: 52.8 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 8
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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78								
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69								
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62								
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55								
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50								
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45								
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42								
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38								
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	25275	25275	25275	25275	25275
5°	27783	27025	25157	23319	22532
10°	29924	28360	24651	21002	19694
15°	31472	29215	23900	18785	16819
20°	32732	29649	23041	16371	14113
25°	33115	29833	21399	14355	11865
30°	30303	29688	19251	12215	9732
35°	26124	27094	16415	10029	7699
40°	22143	23168	13569	7904	5754
45°	18756	19221	10851	5877	3699
50°	16171	15779	8425	3964	2231
55°	14255	13005	6435	2196	1993
60°	12691	10908	4805	1221	1802
65°	11622	9330	3553	1100	1605
70°	10792	8072	2634	1048	1586
75°	10106	7074	1797	973	1385
80°	9707	6193	1227	1060	1227
85°	9448	5335	778	778	778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 19523 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.5	5.8
10°-20°	67.4	16.0
20°-30°	94.2	22.3
30°-40°	92.1	21.8
40°-50°	66.8	15.8
50°-60°	40.3	9.5
60°-70°	22.6	5.4
70°-80°	11.2	2.7
80°-90°	3.1	0.7
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°	186.0	44.1
0°-40°	278.1	65.9
0°-60°	385.1	91.3
0°-90°	422.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	422.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	261	261	261	261	261	
5°	286	278	259	240	232	28
15°	314	291	238	187	168	89
25°	310	279	200	134	111	140
35°	221	229	139	85	65	138
45°	137	140	79	43	27	106
55°	84	77	38	13	12	76
65°	51	41	16	5	7	51
75°	27	19	5	3	4	29
85°	8	5	1	1	1	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	260.9	260.9	260.9	260.9	260.9	260.9	260.9	260.9	260.9
2.5°	272.8	272.0	269.8	265.4	260.9	255.7	251.7	248.7	246.5
5°	285.7	284.2	277.9	268.7	258.7	248.7	239.8	234.6	231.7
7.5°	295.7	293.1	284.2	271.3	255.7	240.6	226.9	218.7	215.4
10°	304.2	299.8	288.3	270.9	250.6	230.6	213.5	203.9	200.2
12.5°	309.8	305.0	290.9	270.5	245.0	220.6	200.6	188.0	184.3
15°	313.8	307.9	291.3	267.6	238.3	210.2	187.3	172.5	167.7
17.5°	316.8	308.7	289.8	264.2	232.4	199.5	173.6	157.7	152.8
20°	317.5	308.7	287.6	259.4	223.5	188.7	158.8	142.9	136.9
22.5°	317.9	307.6	284.2	253.5	214.3	176.5	146.6	129.9	123.6
25°	309.8	303.8	279.1	243.5	200.2	163.2	134.3	116.2	111.0
27.5°	290.5	290.2	273.1	230.2	187.3	148.8	121.8	104.4	99.6
30°	270.9	271.3	265.4	215.4	172.1	135.1	109.2	92.2	87.0
32.5°	246.9	250.6	250.2	198.7	155.8	122.1	97.0	81.1	75.9
35°	220.9	227.6	229.1	179.9	138.8	107.3	84.8	70.3	65.1
37.5°	197.6	204.3	207.6	163.2	122.9	94.4	73.3	60.7	55.5
40°	175.1	180.6	183.2	144.0	107.3	81.1	62.5	50.7	45.5
42.5°	153.2	161.4	160.6	127.7	93.6	70.3	52.9	41.1	35.9
45°	136.9	142.5	140.3	110.7	79.2	59.2	42.9	31.8	27.0
47.5°	120.7	124.7	121.4	96.2	67.0	48.9	34.8	23.3	18.1
50°	107.3	109.2	104.7	81.8	55.9	40.0	26.3	15.5	14.8
52.5°	94.7	95.9	89.6	69.6	46.3	32.2	19.2	12.2	13.0
55°	84.4	84.0	77.0	58.8	38.1	24.8	13.0	11.1	11.8
57.5°	74.4	73.3	66.2	48.9	31.1	19.2	7.8	9.6	10.4
60°	65.5	64.4	56.3	40.3	24.8	14.4	6.3	8.5	9.3
62.5°	58.5	55.9	47.7	33.3	20.0	10.4	5.6	7.4	8.1
65°	50.7	48.5	40.7	27.0	15.5	7.4	4.8	6.3	7.0
67.5°	44.4	41.8	34.4	22.2	12.6	5.2	4.4	5.6	6.3
70°	38.1	35.9	28.5	17.8	9.3	3.3	3.7	4.8	5.6
72.5°	32.9	30.3	23.7	14.1	7.0	2.6	3.3	4.1	4.4
75°	27.0	24.8	18.9	10.7	4.8	2.2	2.6	3.3	3.7
77.5°	22.6	20.4	14.8	8.1	3.3	1.9	2.2	3.0	3.0
80°	17.4	15.5	11.1	5.6	2.2	1.1	1.9	2.2	2.2
82.5°	12.6	11.1	7.8	3.7	1.1	1.1	1.1	1.5	1.5
85°	8.5	7.4	4.8	2.2	0.7	0.7	0.7	0.7	0.7
87.5°	4.8	3.7	2.2	0.7	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	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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