

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: P837384

Luminaire Tested: HCSQ420D010-HM40525935-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837384
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: HCSQ420D010-HM40525935-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

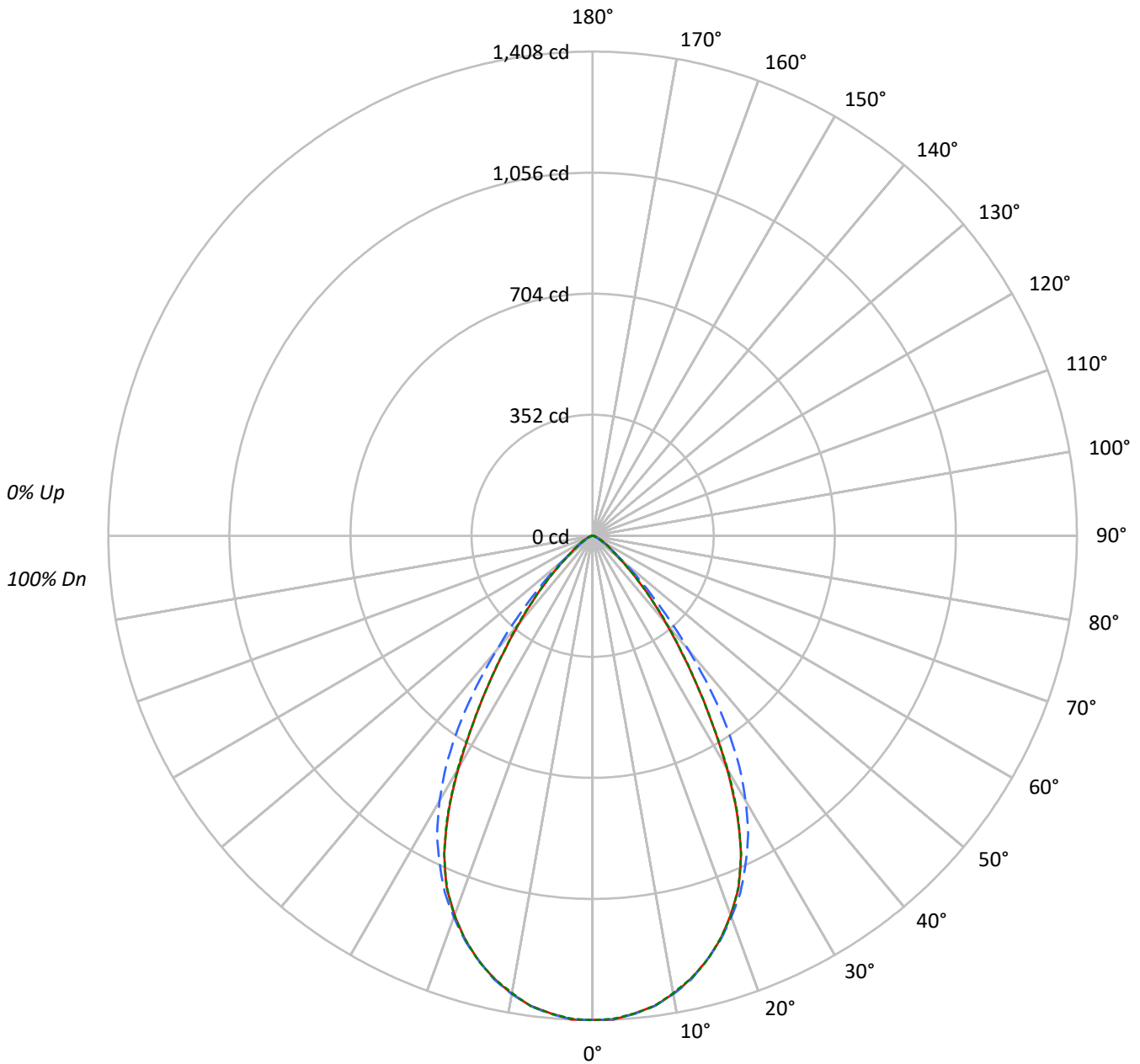
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1582.9 lumens
Efficiency: N/A
Efficacy: 79.1 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): 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									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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92																			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85																			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77																			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71																			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65																			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60																			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56																			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52																			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48																			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	136410	136410	136410
5°	135580	135755	135580
10°	133045	133124	132790
15°	128315	128224	128405
20°	120959	121588	121227
25°	109146	112491	109146
30°	87174	99535	87857
35°	62230	80537	62336
40°	42011	54771	42681
45°	26688	32415	26811
50°	15207	17302	14679
55°	9982	8377	9847
60°	6917	4883	6743
65°	4791	3599	4791
70°	3456	2719	3456
75°	2283	2283	2283
80°	1450	1953	1953
85°	1890	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 32415 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.9	8.3
10°-20°	358.7	22.7
20°-30°	469.7	29.7
30°-40°	369.1	23.3
40°-50°	172.4	10.9
50°-60°	53.4	3.4
60°-70°	19.1	1.2
70°-80°	6.7	0.4
80°-90°	1.8	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°	960.3	60.7
0°-40°	1329.4	84.0
0°-60°	1555.3	98.3
0°-90°	1582.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1582.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1408	1408	1408	1408	1408	
5°	1394	1395	1396	1398	1394	132
15°	1279	1279	1278	1279	1280	358
25°	1021	1035	1052	1036	1021	459
35°	526	574	681	581	527	332
45°	195	218	237	214	196	155
55°	59	56	50	55	58	55
65°	21	19	16	18	21	22
75°	6	6	6	6	6	7
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1408.1	1408.1	1408.1	1408.1	1408.1
2.5°	1408.1	1406.4	1407.3	1405.5	1405.5
5°	1394.2	1395.1	1396.0	1397.7	1394.2
7.5°	1378.6	1380.3	1379.4	1379.4	1379.4
10°	1352.5	1353.3	1353.3	1353.3	1349.9
12.5°	1319.4	1321.2	1322.0	1319.4	1319.4
15°	1279.4	1279.4	1278.5	1279.4	1280.3
17.5°	1231.6	1234.2	1234.2	1231.6	1230.7
20°	1173.3	1177.7	1179.4	1175.9	1175.9
22.5°	1108.1	1112.4	1122.9	1114.2	1107.2
25°	1021.1	1035.0	1052.4	1035.9	1021.1
27.5°	908.9	939.3	979.3	944.6	911.5
30°	779.3	828.9	889.8	831.5	785.4
32.5°	647.1	702.8	792.3	707.1	647.1
35°	526.2	574.0	681.0	581.0	527.1
37.5°	418.4	464.4	558.4	469.7	424.4
40°	332.2	369.6	433.1	368.8	337.5
42.5°	259.2	286.1	327.9	285.3	258.3
45°	194.8	218.3	236.6	214.0	195.7
47.5°	143.5	159.2	169.6	156.6	140.0
50°	100.9	112.2	114.8	109.6	97.4
52.5°	75.7	75.7	76.5	74.8	73.9
55°	59.1	55.7	49.6	54.8	58.3
57.5°	46.1	42.6	34.8	40.9	45.2
60°	35.7	32.2	25.2	31.3	34.8
62.5°	27.8	24.4	20.0	24.4	27.0
65°	20.9	19.1	15.7	18.3	20.9
67.5°	15.7	13.9	12.2	13.9	15.7
70°	12.2	11.3	9.6	10.4	12.2
72.5°	8.7	7.8	7.8	7.8	8.7
75°	6.1	6.1	6.1	6.1	6.1
77.5°	4.3	4.3	4.3	4.3	4.3
80°	2.6	2.6	3.5	3.5	3.5
82.5°	1.7	1.7	2.6	2.6	2.6
85°	1.7	1.7	1.7	1.7	1.7
87.5°	0.9	0.9	0.9	1.7	1.7
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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