

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: P837313

Luminaire Tested: HCSQ415D010-HM40525827-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837313
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ415D010-HM40525827-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: -

Summary

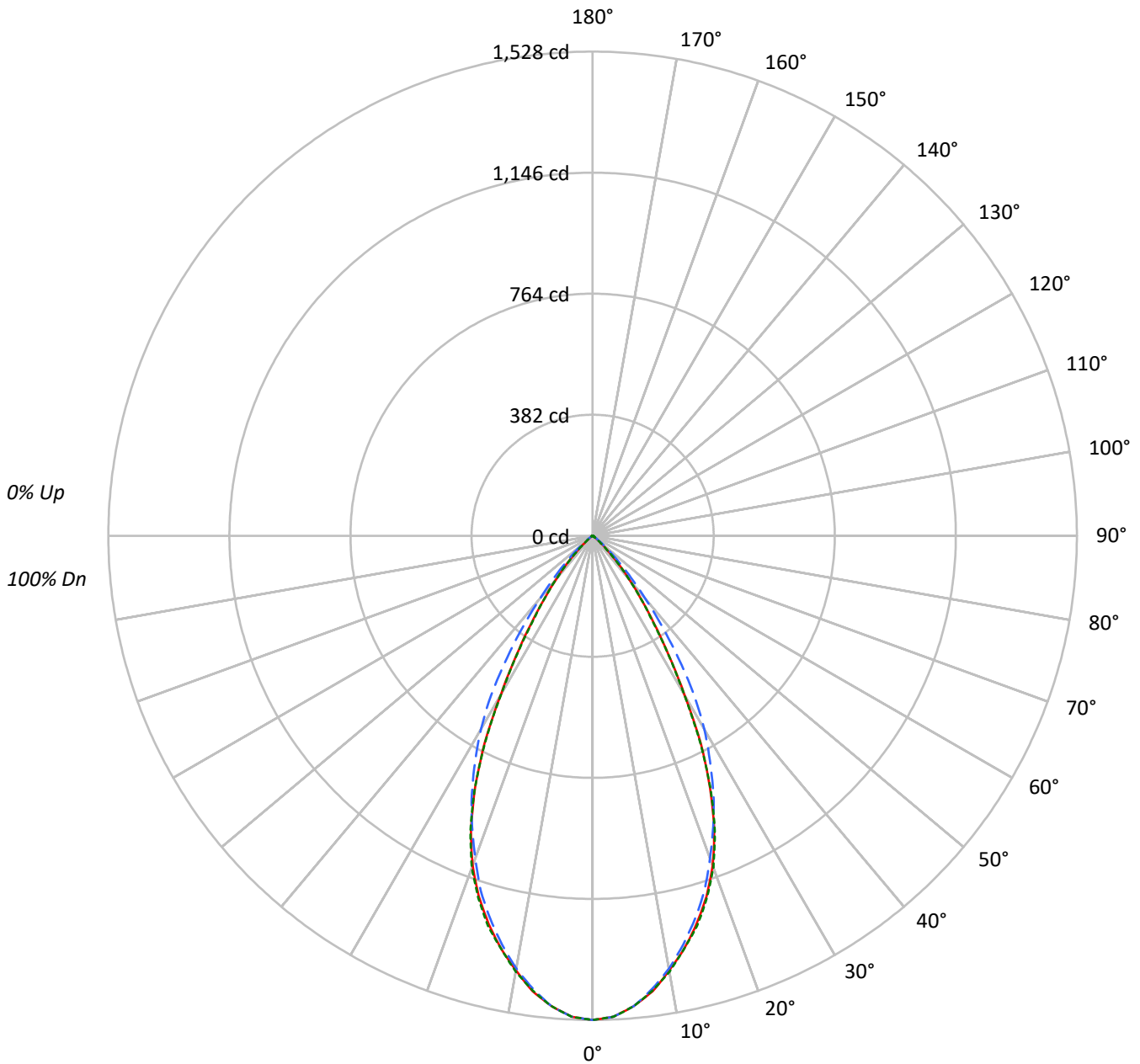
Lumens per Lamp: N/A
Luminaire Lumens: 1234.9 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 14
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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81																			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71																			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66																			
7	84	75	69	65	82	74	68	64	73	68	64	72	67	64	70	66	63	62																			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58																			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55																			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	148045	148045	148045
5°	144876	144935	144935
10°	137029	136419	137393
15°	127141	125406	127833
20°	114134	111577	114835
25°	93743	96458	94074
30°	64802	78818	64310
35°	39902	55666	38944
40°	22510	32551	22358
45°	10275	16317	9850
50°	2622	6541	2713
55°	1250	1993	1149
60°	833	717	969
65°	711	573	711
70°	538	538	708
75°	449	449	711
80°	669	669	669
85°	667	1334	1334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 16317 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.0	11.3
10°-20°	351.1	28.4
20°-30°	401.4	32.5
30°-40°	249.1	20.2
40°-50°	78.5	6.4
50°-60°	10.2	0.8
60°-70°	3.0	0.2
70°-80°	1.6	0.1
80°-90°	1.0	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°	891.5	72.2
0°-40°	1140.6	92.4
0°-60°	1229.3	99.5
0°-90°	1234.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1234.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1528	1528	1528	1528	1528	
5°	1490	1488	1490	1489	1490	139
15°	1268	1258	1250	1258	1275	354
25°	877	889	902	889	880	393
35°	337	390	471	380	329	217
45°	75	90	119	91	72	63
55°	7	7	12	7	7	7
65°	3	3	2	3	3	3
75°	1	1	1	1	2	2
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°	1528.2	1528.2	1528.2	1528.2	1528.2
2.5°	1518.9	1520.2	1518.9	1521.4	1518.9
5°	1489.8	1488.5	1490.4	1489.2	1490.4
7.5°	1450.1	1442.6	1442.0	1447.0	1447.6
10°	1393.0	1391.2	1386.8	1391.2	1396.7
12.5°	1334.7	1327.3	1321.1	1329.8	1334.7
15°	1267.7	1258.4	1250.4	1258.4	1274.6
17.5°	1193.9	1180.9	1174.1	1183.4	1198.9
20°	1107.1	1093.4	1082.3	1090.3	1113.9
22.5°	1002.9	1001.7	994.2	998.6	1007.2
25°	877.0	889.4	902.4	889.4	880.1
27.5°	738.7	772.2	801.9	762.9	733.1
30°	579.3	630.1	704.6	626.4	574.9
32.5°	447.8	501.1	596.0	494.3	444.1
35°	337.4	389.5	470.7	380.2	329.3
37.5°	248.1	287.2	357.9	284.7	248.1
40°	178.0	203.4	257.4	202.8	176.8
42.5°	123.4	140.2	179.9	138.9	119.7
45°	75.0	89.9	119.1	90.6	71.9
47.5°	39.7	57.1	75.0	54.6	39.7
50°	17.4	30.4	43.4	29.8	18.0
52.5°	9.3	13.0	23.6	13.0	9.3
55°	7.4	7.4	11.8	7.4	6.8
57.5°	5.6	5.6	6.2	5.6	5.6
60°	4.3	4.3	3.7	4.3	5.0
62.5°	3.7	3.7	3.1	3.7	3.7
65°	3.1	3.1	2.5	3.1	3.1
67.5°	2.5	2.5	2.5	2.5	2.5
70°	1.9	1.9	1.9	2.5	2.5
72.5°	1.9	1.9	1.9	1.9	1.9
75°	1.2	1.2	1.2	1.2	1.9
77.5°	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2
82.5°	0.6	1.2	1.2	1.2	1.2
85°	0.6	1.2	1.2	1.2	1.2
87.5°	0.6	0.6	1.2	1.2	1.2
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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