

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: P837348

Luminaire Tested: HCSQ415D010-HM40525940-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837348  
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-HM40525940-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

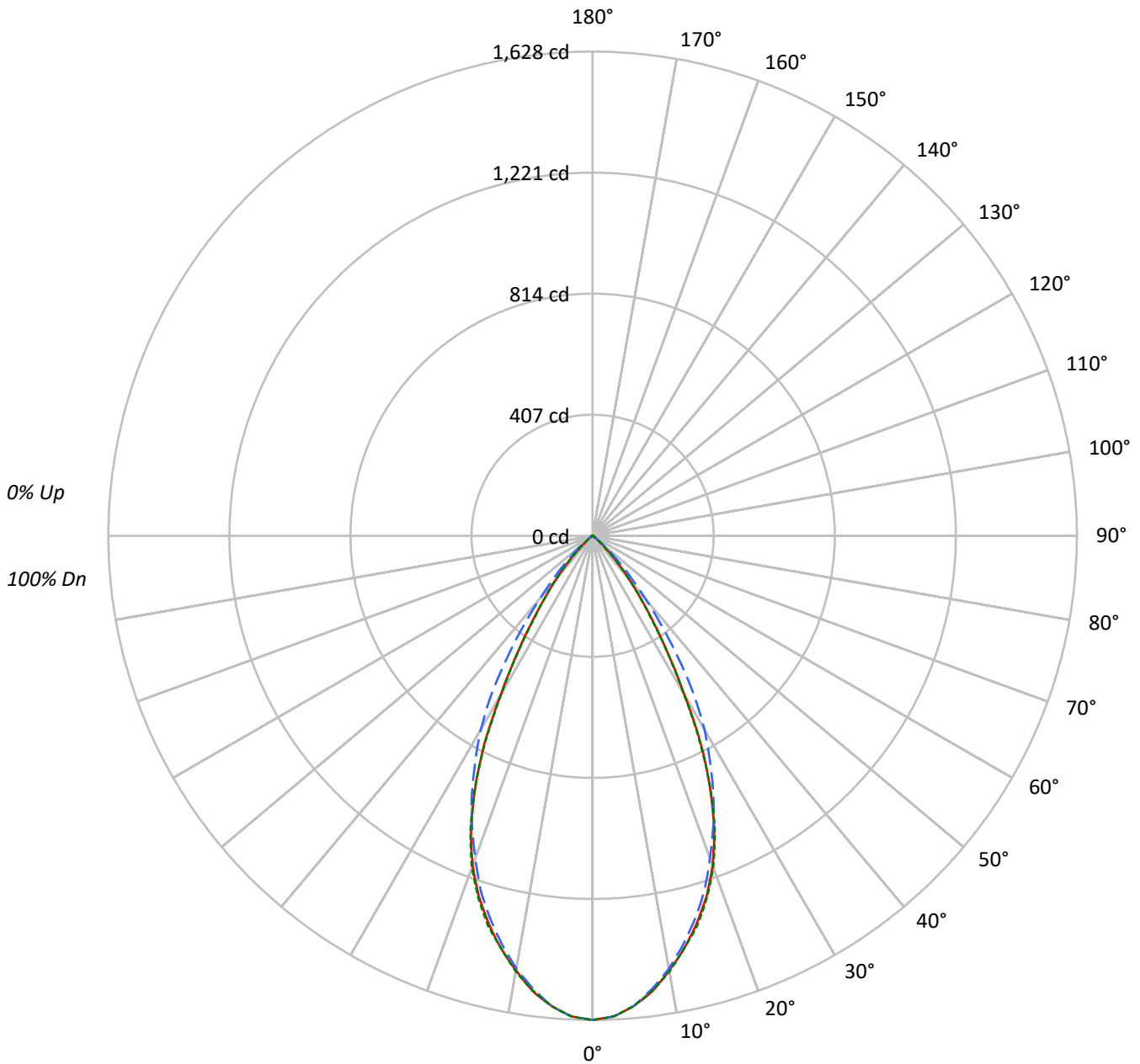
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1315.4 lumens  
Efficiency: N/A  
Efficacy: 94.0 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<sub>in</sub>): 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	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°	157694	157694	157694
5°	154319	154377	154377
10°	145961	145312	146355
15°	135435	133580	136158
20°	121577	118845	122319
25°	99857	102743	100210
30°	69019	83953	68504
35°	42504	59297	41487
40°	23977	34676	23813
45°	10947	17372	10494
50°	2788	6963	2894
55°	1334	2128	1233
60°	891	775	1027
65°	756	596	756
70°	566	566	736
75°	487	487	749
80°	725	725	725
85°	778	1445	1445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 17372 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.1	11.3
10°-20°	374.0	28.4
20°-30°	427.5	32.5
30°-40°	265.4	20.2
40°-50°	83.6	6.4
50°-60°	10.8	0.8
60°-70°	3.2	0.2
70°-80°	1.7	0.1
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°	949.6	72.2
0°-40°	1215.0	92.4
0°-60°	1309.4	99.5
0°-90°	1315.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1315.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1628	1628	1628	1628	1628	
5°	1587	1586	1588	1586	1588	148
15°	1350	1340	1332	1340	1358	377
25°	934	947	961	947	938	419
35°	359	415	501	405	351	231
45°	80	96	127	96	77	67
55°	8	8	13	8	7	8
65°	3	3	3	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°	1627.8	1627.8	1627.8	1627.8	1627.8
2.5°	1617.9	1619.2	1617.9	1620.6	1617.9
5°	1586.9	1585.6	1587.5	1586.2	1587.5
7.5°	1544.6	1536.7	1536.0	1541.3	1541.9
10°	1483.8	1481.8	1477.2	1481.8	1487.8
12.5°	1421.7	1413.8	1407.2	1416.4	1421.7
15°	1350.4	1340.5	1331.9	1340.5	1357.6
17.5°	1271.7	1257.9	1250.6	1260.5	1277.0
20°	1179.3	1164.7	1152.8	1161.4	1186.5
22.5°	1068.3	1066.9	1059.0	1063.6	1072.9
25°	934.2	947.4	961.2	947.4	937.5
27.5°	786.8	822.5	854.2	812.6	780.9
30°	617.0	671.2	750.5	667.3	612.4
32.5°	477.0	533.8	634.9	526.5	473.0
35°	359.4	414.9	501.4	405.0	350.8
37.5°	264.3	305.9	381.2	303.2	264.3
40°	189.6	216.7	274.2	216.0	188.3
42.5°	131.5	149.3	191.6	148.0	127.5
45°	79.9	95.8	126.8	96.5	76.6
47.5°	42.3	60.8	79.9	58.1	42.3
50°	18.5	32.4	46.2	31.7	19.2
52.5°	9.9	13.9	25.1	13.9	9.9
55°	7.9	7.9	12.6	7.9	7.3
57.5°	5.9	5.9	6.6	5.9	5.9
60°	4.6	4.6	4.0	4.6	5.3
62.5°	4.0	4.0	3.3	4.0	4.0
65°	3.3	3.3	2.6	3.3	3.3
67.5°	2.6	2.6	2.6	2.6	2.6
70°	2.0	2.0	2.0	2.6	2.6
72.5°	2.0	2.0	2.0	2.0	2.0
75°	1.3	1.3	1.3	1.3	2.0
77.5°	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3
82.5°	0.7	1.3	1.3	1.3	1.3
85°	0.7	1.3	1.3	1.3	1.3
87.5°	0.7	0.7	1.3	1.3	1.3
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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