

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P837328

Luminaire Tested: HCSQ415D010-HM40525840-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837328  
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-HM40525840-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

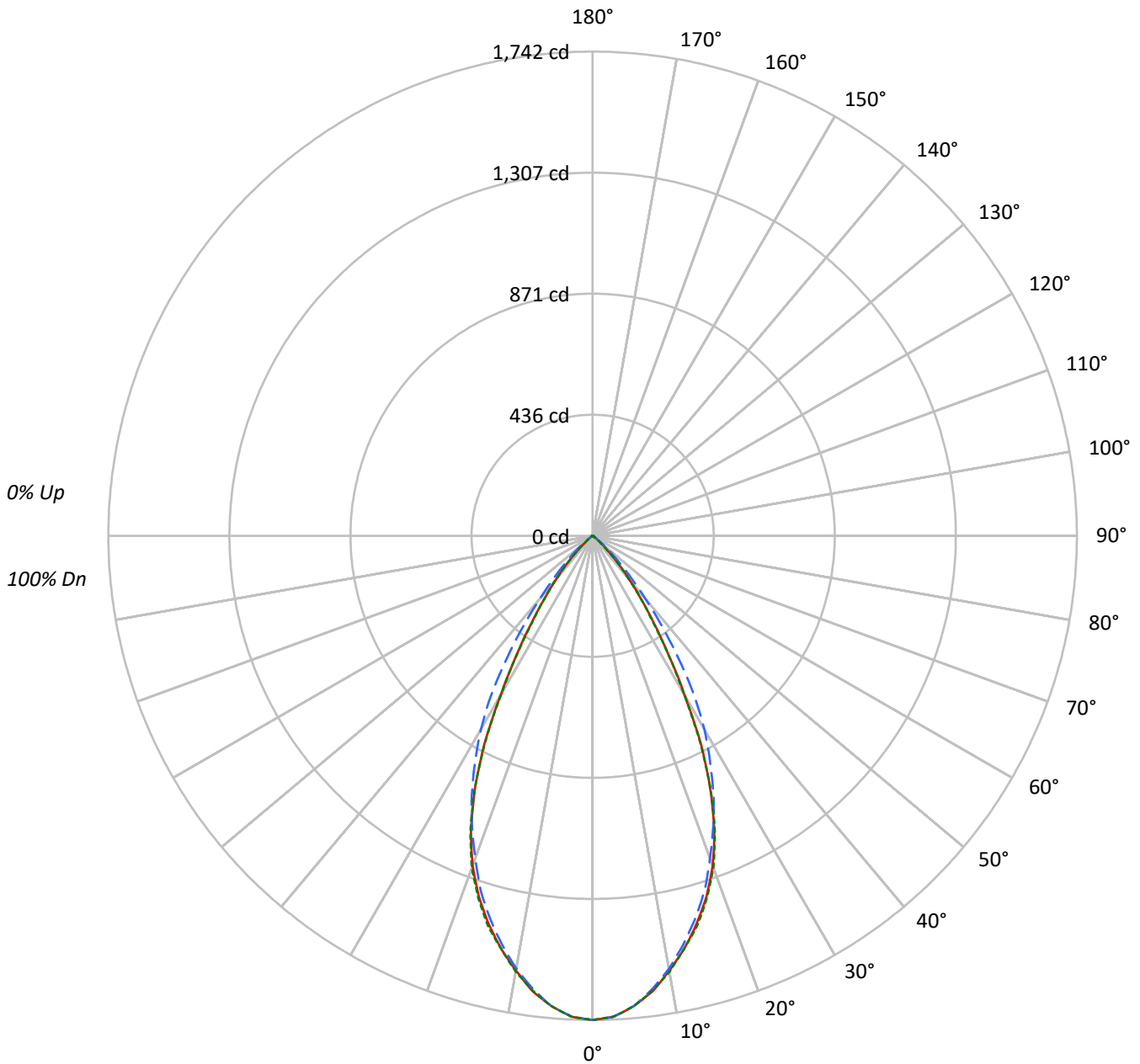
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1408.1 lumens  
Efficiency: N/A  
Efficacy: 100.6 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	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°	168796	168796	168796
5°	165181	165249	165249
10°	156241	155542	156654
15°	144963	142977	145746
20°	130134	127216	130938
25°	106880	109979	107264
30°	73885	89859	73326
35°	45496	63472	44408
40°	25672	37117	25482
45°	11727	18605	11234
50°	2984	7460	3090
55°	1436	2263	1317
60°	969	814	1104
65°	802	642	802
70°	595	595	793
75°	524	524	786
80°	781	781	781
85°	778	1556	1556

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 18605 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.5	11.3
10°-20°	400.3	28.4
20°-30°	457.6	32.5
30°-40°	284.1	20.2
40°-50°	89.5	6.4
50°-60°	11.6	0.8
60°-70°	3.4	0.2
70°-80°	1.8	0.1
80°-90°	1.2	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°	1016.4	72.2
0°-40°	1300.5	92.4
0°-60°	1401.6	99.5
0°-90°	1408.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1408.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1742	1742	1742	1742	1742	
5°	1699	1697	1699	1698	1699	159
15°	1445	1435	1426	1435	1453	403
25°	1000	1014	1029	1014	1004	449
35°	385	444	537	434	376	247
45°	86	102	136	103	82	72
55°	8	8	13	8	8	8
65°	4	4	3	4	4	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°	1742.4	1742.4	1742.4	1742.4	1742.4
2.5°	1731.8	1733.3	1731.8	1734.7	1731.8
5°	1698.6	1697.2	1699.3	1697.9	1699.3
7.5°	1653.3	1644.9	1644.2	1649.8	1650.5
10°	1588.3	1586.2	1581.2	1586.2	1592.5
12.5°	1521.8	1513.3	1506.3	1516.2	1521.8
15°	1445.4	1434.8	1425.6	1434.8	1453.2
17.5°	1361.3	1346.4	1338.7	1349.3	1366.9
20°	1262.3	1246.7	1234.0	1243.2	1270.1
22.5°	1143.5	1142.1	1133.6	1138.5	1148.4
25°	999.9	1014.1	1028.9	1014.1	1003.5
27.5°	842.2	880.4	914.4	869.8	835.9
30°	660.5	718.5	803.3	714.2	655.5
32.5°	510.6	571.4	679.6	563.6	506.3
35°	384.7	444.1	536.7	433.5	375.5
37.5°	282.9	327.4	408.0	324.6	282.9
40°	203.0	231.9	293.5	231.2	201.5
42.5°	140.7	159.8	205.1	158.4	136.5
45°	85.6	102.5	135.8	103.2	82.0
47.5°	45.3	65.1	85.6	62.2	45.3
50°	19.8	34.7	49.5	33.9	20.5
52.5°	10.6	14.9	26.9	14.9	10.6
55°	8.5	8.5	13.4	8.5	7.8
57.5°	6.4	6.4	7.1	6.4	6.4
60°	5.0	5.0	4.2	5.0	5.7
62.5°	4.2	4.2	3.5	4.2	4.2
65°	3.5	3.5	2.8	3.5	3.5
67.5°	2.8	2.8	2.8	2.8	2.8
70°	2.1	2.1	2.1	2.8	2.8
72.5°	2.1	2.1	2.1	2.1	2.1
75°	1.4	1.4	1.4	1.4	2.1
77.5°	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4
82.5°	0.7	1.4	1.4	1.4	1.4
85°	0.7	1.4	1.4	1.4	1.4
87.5°	0.7	0.7	1.4	1.4	1.4
90°	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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