

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: P837253

Luminaire Tested: HCSQ407D010-HM40525927-41SQC

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837253  
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: HCSQ407D010-HM40525927-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

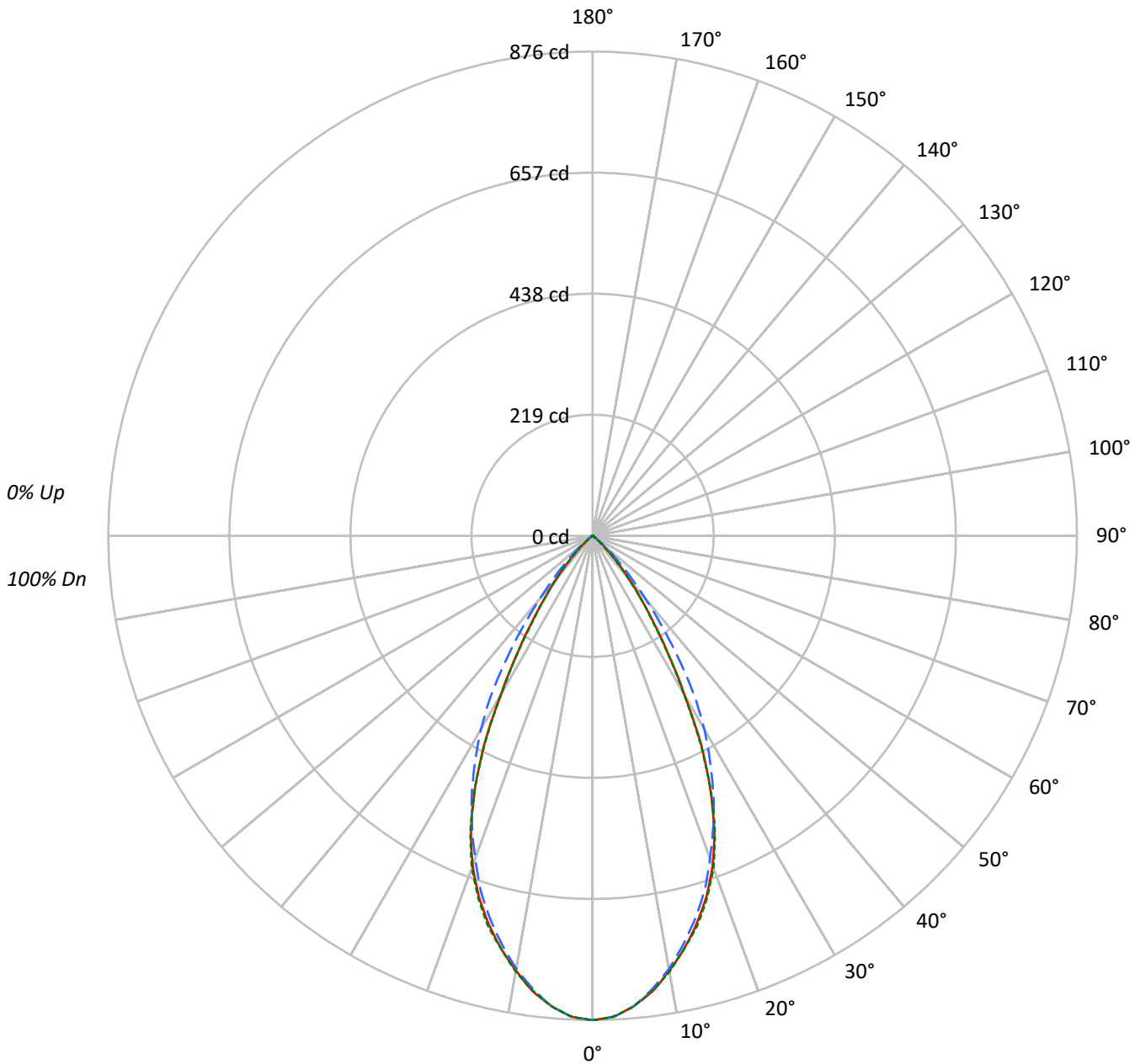
Lumens per Lamp: N/A  
Luminaire Lumens: 708.2 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 8  
Input Voltage (V): NR  
Input Current (Ain): 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	71	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°	84892	84892	84892
5°	83067	83106	83106
10°	78578	78224	78784
15°	72903	71910	73294
20°	65443	63979	65845
25°	53755	55316	53937
30°	37161	45192	36881
35°	22884	31919	22328
40°	12912	18666	12823
45°	5891	9357	5658
50°	1507	3753	1552
55°	726	1149	659
60°	484	407	543
65°	413	321	413
70°	312	312	397
75°	262	262	412
80°	391	391	391
85°	445	778	778

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 9357 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.7	11.3
10°-20°	201.3	28.4
20°-30°	230.1	32.5
30°-40°	142.9	20.2
40°-50°	45.0	6.4
50°-60°	5.8	0.8
60°-70°	1.7	0.2
70°-80°	0.9	0.1
80°-90°	0.6	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°	511.2	72.2
0°-40°	654.0	92.4
0°-60°	704.9	99.5
0°-90°	708.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	708.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	876	876	876	876	876	
5°	854	854	855	854	855	80
15°	727	722	717	722	731	203
25°	503	510	518	510	505	226
35°	194	223	270	218	189	124
45°	43	52	68	52	41	36
55°	4	4	7	4	4	4
65°	2	2	1	2	2	2
75°	1	1	1	1	1	1
85°	0	1	1	1	1	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	876.3	876.3	876.3	876.3	876.3
2.5°	871.0	871.7	871.0	872.4	871.0
5°	854.2	853.5	854.6	853.9	854.6
7.5°	831.5	827.2	826.9	829.7	830.1
10°	798.8	797.7	795.2	797.7	800.9
12.5°	765.3	761.1	757.5	762.5	765.3
15°	726.9	721.6	717.0	721.6	730.8
17.5°	684.6	677.1	673.2	678.6	687.4
20°	634.8	627.0	620.6	625.2	638.7
22.5°	575.1	574.4	570.1	572.6	577.6
25°	502.9	510.0	517.5	510.0	504.6
27.5°	423.6	442.8	459.8	437.4	420.4
30°	332.2	361.3	404.0	359.2	329.7
32.5°	256.8	287.4	341.8	283.4	254.6
35°	193.5	223.3	269.9	218.0	188.8
37.5°	142.3	164.7	205.2	163.2	142.3
40°	102.1	116.6	147.6	116.3	101.4
42.5°	70.8	80.4	103.1	79.7	68.6
45°	43.0	51.6	68.3	51.9	41.3
47.5°	22.8	32.7	43.0	31.3	22.8
50°	10.0	17.4	24.9	17.1	10.3
52.5°	5.3	7.5	13.5	7.5	5.3
55°	4.3	4.3	6.8	4.3	3.9
57.5°	3.2	3.2	3.6	3.2	3.2
60°	2.5	2.5	2.1	2.5	2.8
62.5°	2.1	2.1	1.8	2.1	2.1
65°	1.8	1.8	1.4	1.8	1.8
67.5°	1.4	1.4	1.4	1.4	1.4
70°	1.1	1.1	1.1	1.4	1.4
72.5°	1.1	1.1	1.1	1.1	1.1
75°	0.7	0.7	0.7	0.7	1.1
77.5°	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7
82.5°	0.4	0.7	0.7	0.7	0.7
85°	0.4	0.7	0.7	0.7	0.7
87.5°	0.4	0.4	0.7	0.7	0.7
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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