

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: P837228

Luminaire Tested: HCSQ405D010-HM40525940-41SQC

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837228  
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: HCSQ405D010-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**

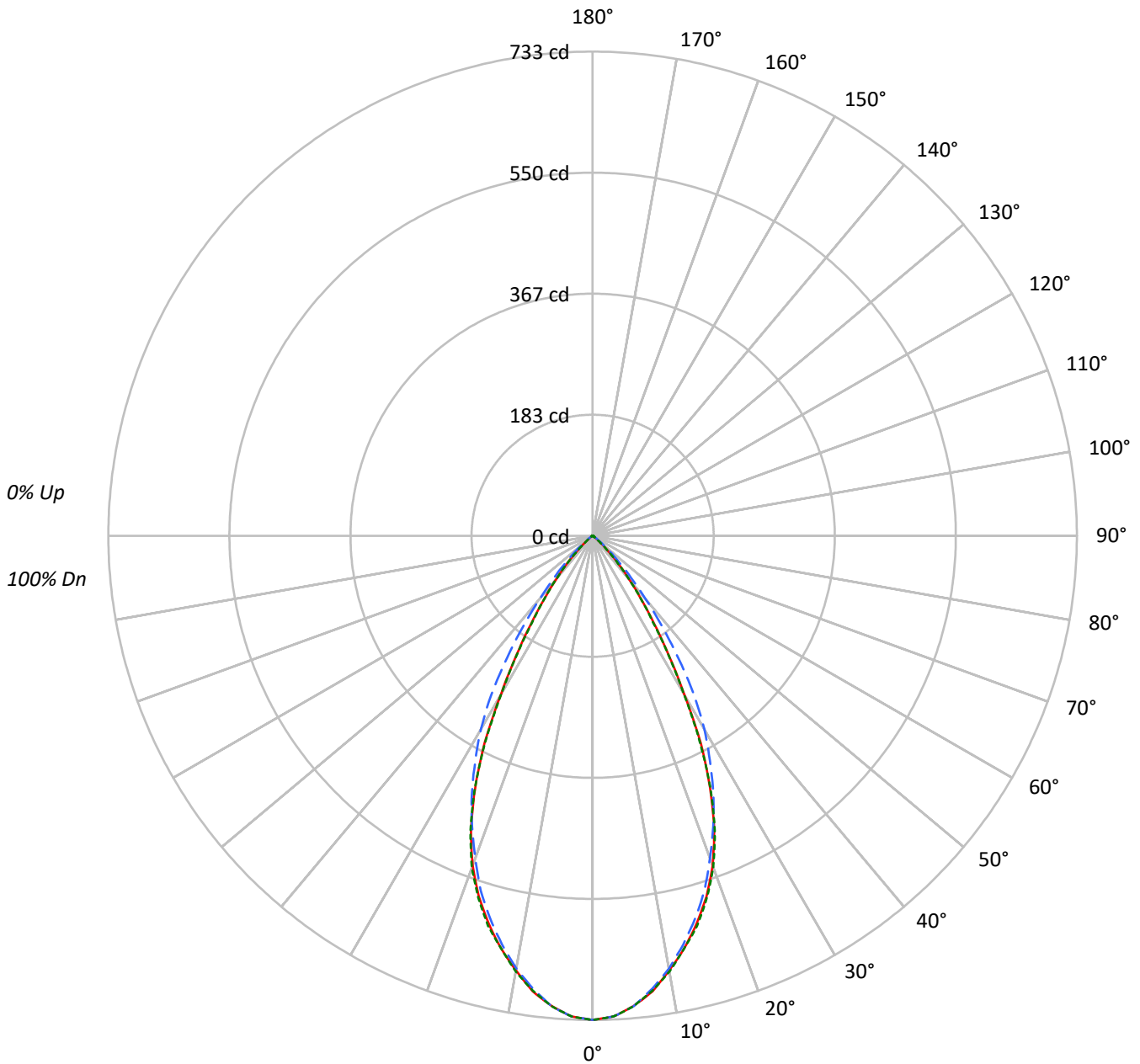
Lumens per Lamp: N/A  
Luminaire Lumens: 592.3 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 6  
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°	71000	71000	71000
5°	69482	69511	69511
10°	65721	65426	65898
15°	60978	60146	61309
20°	54742	53515	55072
25°	44958	46262	45118
30°	31075	37798	30840
35°	19135	26704	18674
40°	10800	15605	10724
45°	4932	7823	4727
50°	1251	3135	1296
55°	608	963	557
60°	407	349	465
65°	344	275	344
70°	255	255	340
75°	225	225	337
80°	335	335	335
85°	333	667	667

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 7823 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	11.3
10°-20°	168.4	28.4
20°-30°	192.5	32.5
30°-40°	119.5	20.2
40°-50°	37.7	6.4
50°-60°	4.9	0.8
60°-70°	1.5	0.2
70°-80°	0.8	0.1
80°-90°	0.5	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°	427.5	72.2
0°-40°	547.0	92.4
0°-60°	589.6	99.5
0°-90°	592.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	592.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	733	733	733	733	733	
5°	714	714	715	714	715	67
15°	608	604	600	604	611	170
25°	421	427	433	427	422	189
35°	162	187	226	182	158	104
45°	36	43	57	43	34	30
55°	4	4	6	4	3	4
65°	2	2	1	2	2	1
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°	732.9	732.9	732.9	732.9	732.9
2.5°	728.5	729.1	728.5	729.7	728.5
5°	714.5	713.9	714.8	714.2	714.8
7.5°	695.5	691.9	691.6	694.0	694.3
10°	668.1	667.2	665.1	667.2	669.9
12.5°	640.1	636.6	633.6	637.7	640.1
15°	608.0	603.5	599.7	603.5	611.3
17.5°	572.6	566.4	563.1	567.5	575.0
20°	531.0	524.4	519.1	522.9	534.2
22.5°	481.0	480.4	476.8	478.9	483.1
25°	420.6	426.6	432.8	426.6	422.1
27.5°	354.3	370.3	384.6	365.9	351.6
30°	277.8	302.2	337.9	300.4	275.7
32.5°	214.8	240.3	285.9	237.1	213.0
35°	161.8	186.8	225.8	182.3	157.9
37.5°	119.0	137.7	171.6	136.5	119.0
40°	85.4	97.6	123.4	97.3	84.8
42.5°	59.2	67.2	86.3	66.6	57.4
45°	36.0	43.1	57.1	43.4	34.5
47.5°	19.0	27.4	36.0	26.2	19.0
50°	8.3	14.6	20.8	14.3	8.6
52.5°	4.5	6.2	11.3	6.2	4.5
55°	3.6	3.6	5.7	3.6	3.3
57.5°	2.7	2.7	3.0	2.7	2.7
60°	2.1	2.1	1.8	2.1	2.4
62.5°	1.8	1.8	1.5	1.8	1.8
65°	1.5	1.5	1.2	1.5	1.5
67.5°	1.2	1.2	1.2	1.2	1.2
70°	0.9	0.9	0.9	1.2	1.2
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.6	0.6	0.6	0.6	0.9
77.5°	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6
82.5°	0.3	0.6	0.6	0.6	0.6
85°	0.3	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.6	0.6	0.6
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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