

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: P837349

Luminaire Tested: HCSQ415D010-HM40525940-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837349  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525940-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

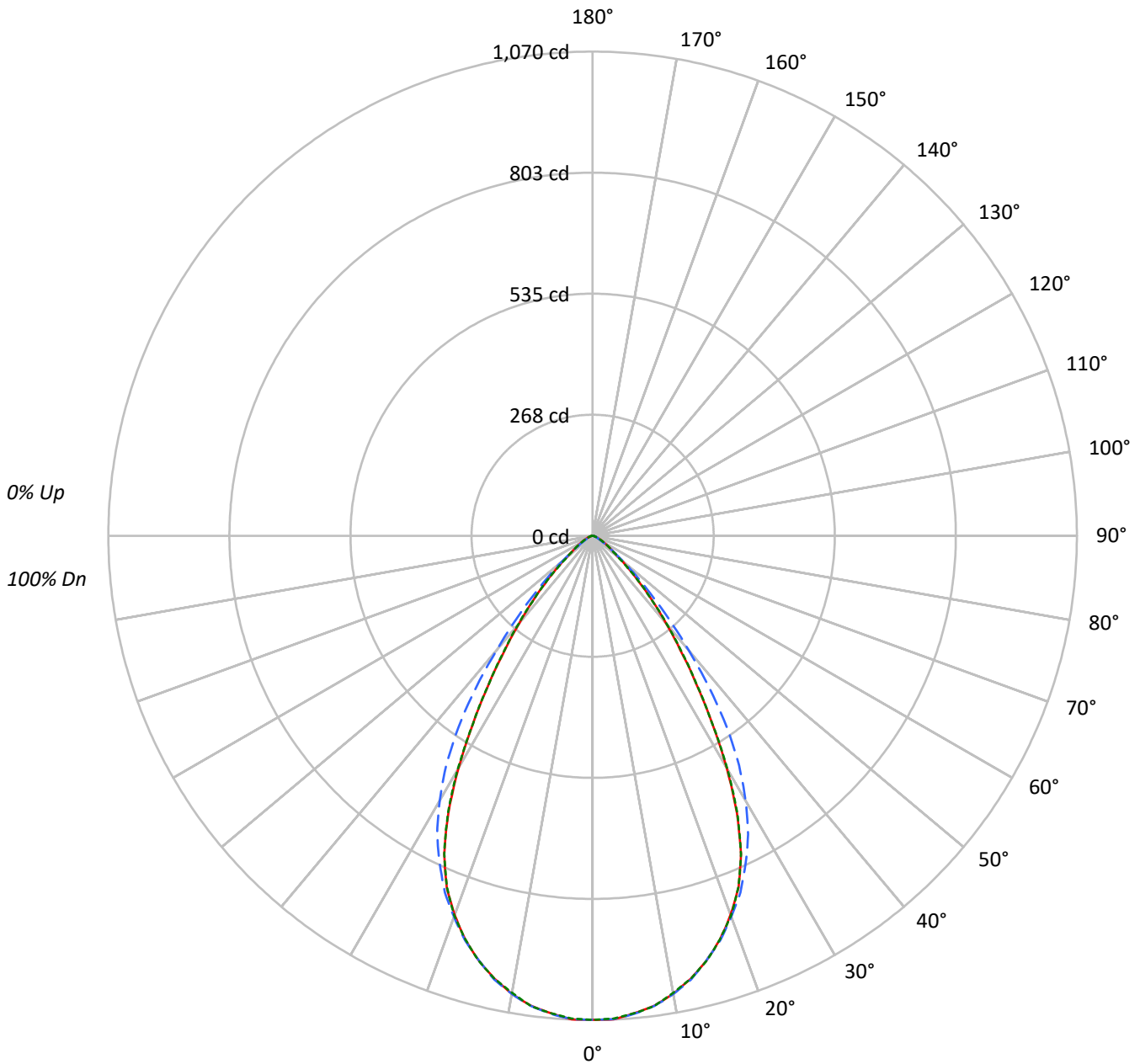
Lumens per Lamp: N/A  
Luminaire Lumens: 1202.5 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (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				100															
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92				92															
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85				85															
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77															
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71															
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65				65															
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60				60															
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56				56															
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52				52															
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48				48															
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45				45															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	103628	103628	103628
5°	103002	103129	103002
10°	101075	101134	100878
15°	97475	97414	97545
20°	91887	92371	92093
25°	82915	85459	82915
30°	66222	75608	66737
35°	47270	61189	47353
40°	31919	41606	32425
45°	20276	24619	20372
50°	11544	13142	11153
55°	7583	6367	7482
60°	5251	3720	5115
65°	3645	2728	3645
70°	2634	2068	2634
75°	1722	1722	1722
80°	1116	1450	1450
85°	1445	1445	1445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 24619 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	8.3
10°-20°	272.5	22.7
20°-30°	356.8	29.7
30°-40°	280.4	23.3
40°-50°	131.0	10.9
50°-60°	40.6	3.4
60°-70°	14.5	1.2
70°-80°	5.1	0.4
80°-90°	1.4	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°	729.5	60.7
0°-40°	1009.9	84.0
0°-60°	1181.5	98.3
0°-90°	1202.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1202.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1070	1070	1070	1070	1070	
5°	1059	1060	1060	1062	1059	100
15°	972	972	971	972	973	272
25°	776	786	800	787	776	349
35°	400	436	517	441	400	252
45°	148	166	180	162	149	118
55°	45	42	38	42	44	42
65°	16	14	12	14	16	17
75°	5	5	5	5	5	5
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°	1069.7	1069.7	1069.7	1069.7	1069.7
2.5°	1069.7	1068.4	1069.1	1067.8	1067.8
5°	1059.2	1059.8	1060.5	1061.8	1059.2
7.5°	1047.3	1048.6	1047.9	1047.9	1047.9
10°	1027.5	1028.1	1028.1	1028.1	1025.5
12.5°	1002.3	1003.7	1004.3	1002.3	1002.3
15°	971.9	971.9	971.3	971.9	972.6
17.5°	935.6	937.6	937.6	935.6	934.9
20°	891.3	894.6	896.0	893.3	893.3
22.5°	841.8	845.1	853.0	846.4	841.1
25°	775.7	786.3	799.5	786.9	775.7
27.5°	690.5	713.6	744.0	717.6	692.5
30°	592.0	629.7	675.9	631.7	596.6
32.5°	491.6	533.9	601.9	537.2	491.6
35°	399.7	436.1	517.4	441.4	400.4
37.5°	317.8	352.8	424.2	356.8	322.4
40°	252.4	280.8	329.0	280.2	256.4
42.5°	196.9	217.4	249.1	216.7	196.2
45°	148.0	165.8	179.7	162.5	148.7
47.5°	109.0	120.9	128.8	118.9	106.4
50°	76.6	85.2	87.2	83.3	74.0
52.5°	57.5	57.5	58.1	56.8	56.2
55°	44.9	42.3	37.7	41.6	44.3
57.5°	35.0	32.4	26.4	31.1	34.4
60°	27.1	24.4	19.2	23.8	26.4
62.5°	21.1	18.5	15.2	18.5	20.5
65°	15.9	14.5	11.9	13.9	15.9
67.5°	11.9	10.6	9.3	10.6	11.9
70°	9.3	8.6	7.3	7.9	9.3
72.5°	6.6	5.9	5.9	5.9	6.6
75°	4.6	4.6	4.6	4.6	4.6
77.5°	3.3	3.3	3.3	3.3	3.3
80°	2.0	2.0	2.6	2.6	2.6
82.5°	1.3	1.3	2.0	2.0	2.0
85°	1.3	1.3	1.3	1.3	1.3
87.5°	0.7	0.7	0.7	1.3	1.3
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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