

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: P837339

Luminaire Tested: HCSQ415D010-HM40525930-41SQH

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837339  
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-HM40525930-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

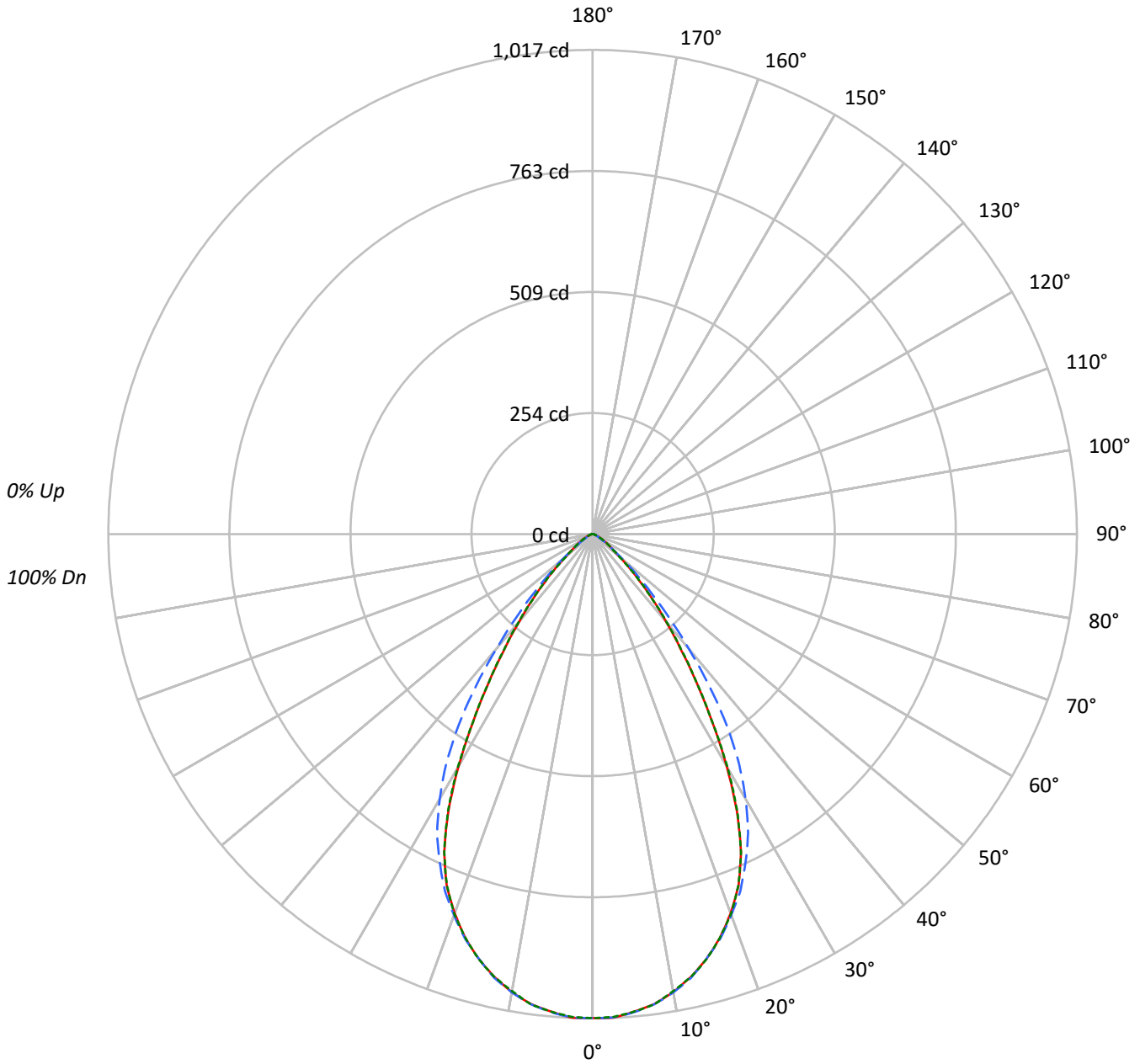
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1143.0 lumens  
Efficiency: N/A  
Efficacy: 81.6 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																			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92																			
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85																			
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77																			
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71																			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65																			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60																			
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56																			
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52																			
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48																			
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45																			

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

	0°	45°	90°
0°	98503	98503	98503
5°	97907	98023	97907
10°	96068	96137	95891
15°	92661	92600	92721
20°	87350	87804	87536
25°	78810	81237	78810
30°	62945	71871	63437
35°	44940	58162	45011
40°	30338	39557	30819
45°	19276	23400	19358
50°	10987	12494	10595
55°	7212	6047	7111
60°	4999	3526	4863
65°	3461	2590	3461
70°	2493	1954	2493
75°	1647	1647	1647
80°	1060	1395	1395
85°	1445	1445	1445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 23400 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.3	8.3
10°-20°	259.0	22.7
20°-30°	339.1	29.7
30°-40°	266.6	23.3
40°-50°	124.5	10.9
50°-60°	38.6	3.4
60°-70°	13.8	1.2
70°-80°	4.8	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°	693.4	60.7
0°-40°	960.0	84.0
0°-60°	1123.1	98.3
0°-90°	1143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1143.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1017	1017	1017	1017	1017	
5°	1007	1007	1008	1009	1007	95
15°	924	924	923	924	924	259
25°	737	747	760	748	737	332
35°	380	414	492	420	381	240
45°	141	158	171	154	141	112
55°	43	40	36	40	42	40
65°	15	14	11	13	15	16
75°	4	4	4	4	4	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°	1016.8	1016.8	1016.8	1016.8	1016.8
2.5°	1016.8	1015.6	1016.2	1015.0	1015.0
5°	1006.8	1007.4	1008.0	1009.3	1006.8
7.5°	995.5	996.7	996.1	996.1	996.1
10°	976.6	977.3	977.3	977.3	974.8
12.5°	952.8	954.0	954.7	952.8	952.8
15°	923.9	923.9	923.3	923.9	924.5
17.5°	889.3	891.2	891.2	889.3	888.7
20°	847.3	850.4	851.7	849.1	849.1
22.5°	800.2	803.3	810.8	804.5	799.5
25°	737.3	747.4	760.0	748.0	737.3
27.5°	656.3	678.3	707.2	682.1	658.2
30°	562.7	598.5	642.5	600.4	567.1
32.5°	467.3	507.5	572.2	510.6	467.3
35°	380.0	414.5	491.8	419.5	380.6
37.5°	302.1	335.4	403.2	339.2	306.5
40°	239.9	266.9	312.8	266.3	243.7
42.5°	187.2	206.6	236.8	206.0	186.5
45°	140.7	157.6	170.8	154.5	141.3
47.5°	103.6	114.9	122.5	113.1	101.1
50°	72.9	81.0	82.9	79.1	70.3
52.5°	54.6	54.6	55.3	54.0	53.4
55°	42.7	40.2	35.8	39.6	42.1
57.5°	33.3	30.8	25.1	29.5	32.7
60°	25.8	23.2	18.2	22.6	25.1
62.5°	20.1	17.6	14.4	17.6	19.5
65°	15.1	13.8	11.3	13.2	15.1
67.5°	11.3	10.0	8.8	10.0	11.3
70°	8.8	8.2	6.9	7.5	8.8
72.5°	6.3	5.7	5.7	5.7	6.3
75°	4.4	4.4	4.4	4.4	4.4
77.5°	3.1	3.1	3.1	3.1	3.1
80°	1.9	1.9	2.5	2.5	2.5
82.5°	1.3	1.3	1.9	1.9	1.9
85°	1.3	1.3	1.3	1.3	1.3
87.5°	0.6	0.6	0.6	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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(END OF REPORT)