

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: P837516

Luminaire Tested: HCSQ440D010-HM43040827-41SQMB

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837516  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ440D010-HM43040827-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

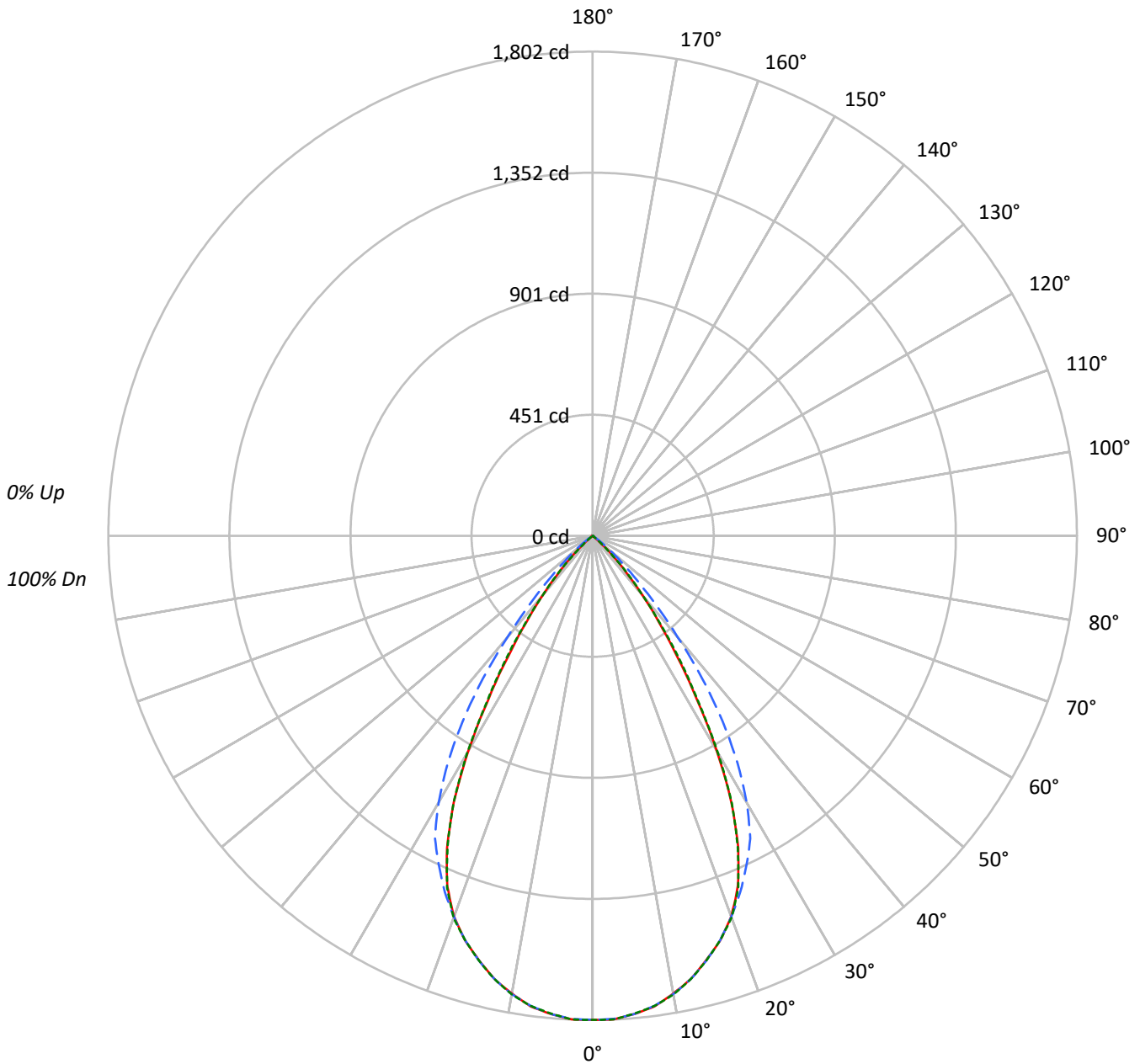
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1799.8 lumens  
Efficiency: N/A  
Efficacy: 43.9 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 41  
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	100	100	100	100	100		
	1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	87	87	87	87	87		
	3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74	74	74	74	74	74		
	5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69	69	69	69	69	69		
	6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64	64	64	64	64	64		
	7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60	60	60	60	60	60		
	8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56	56	56	56	56	56		
	9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52	52	52	52	52	52		
	10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49	49	49	49	49	49		

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

	0°	45°	90°
0°	174540	174540	174540
5°	173739	173739	173583
10°	170160	170327	170485
15°	163929	164099	164099
20°	155412	155587	155928
25°	137023	144708	136488
30°	103383	128250	104323
35°	64832	99814	67008
40°	36560	62143	36560
45°	15344	31374	15111
50°	1266	12087	1507
55°	557	2533	557
60°	639	329	639
65°	390	390	390
70°	482	482	482
75°	636	636	636
80°	0	948	948
85°	0	1890	1890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 31374 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.9	9.4
10°-20°	459.4	25.5
20°-30°	595.9	33.1
30°-40°	423.7	23.5
40°-50°	137.4	7.6
50°-60°	9.9	0.5
60°-70°	1.7	0.1
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°	1224.1	68.0
0°-40°	1647.8	91.6
0°-60°	1795.1	99.7
0°-90°	1799.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1799.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1802	1802	1802	1802	1802	
5°	1787	1788	1787	1787	1785	169
15°	1634	1640	1636	1640	1636	459
25°	1282	1315	1354	1322	1277	574
35°	548	648	844	655	567	351
45°	112	159	229	162	110	93
55°	3	3	15	3	3	4
65°	2	2	2	2	2	2
75°	2	2	2	2	2	2
85°	0	0	2	2	2	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1801.7	1801.7	1801.7	1801.7	1801.7
2.5°	1801.7	1801.7	1800.0	1800.0	1801.7
5°	1786.6	1788.3	1786.6	1786.6	1785.0
7.5°	1766.6	1766.6	1764.9	1764.9	1764.9
10°	1729.8	1731.5	1731.5	1731.5	1733.1
12.5°	1689.7	1689.7	1689.7	1689.7	1689.7
15°	1634.5	1639.6	1636.2	1639.6	1636.2
17.5°	1579.4	1579.4	1577.7	1581.1	1577.7
20°	1507.5	1507.5	1509.2	1512.5	1512.5
22.5°	1412.3	1429.0	1435.7	1432.3	1415.6
25°	1281.9	1315.3	1353.8	1322.0	1276.9
27.5°	1118.1	1181.6	1270.2	1191.6	1121.4
30°	924.2	1019.5	1146.5	1022.8	932.6
32.5°	723.7	834.0	1002.8	842.3	730.4
35°	548.2	648.5	844.0	655.2	566.6
37.5°	404.5	496.4	670.2	499.7	416.2
40°	289.1	356.0	491.4	362.7	289.1
42.5°	185.5	252.4	346.0	254.0	193.9
45°	112.0	158.8	229.0	162.1	110.3
47.5°	50.1	90.3	142.1	93.6	50.1
50°	8.4	36.8	80.2	38.4	10.0
52.5°	5.0	6.7	38.4	6.7	5.0
55°	3.3	3.3	15.0	3.3	3.3
57.5°	3.3	3.3	3.3	3.3	3.3
60°	3.3	1.7	1.7	1.7	3.3
62.5°	1.7	1.7	1.7	1.7	1.7
65°	1.7	1.7	1.7	1.7	1.7
67.5°	1.7	1.7	1.7	1.7	1.7
70°	1.7	1.7	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7	1.7
75°	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7
80°	0.0	1.7	1.7	1.7	1.7
82.5°	0.0	1.7	1.7	1.7	1.7
85°	0.0	0.0	1.7	1.7	1.7
87.5°	0.0	0.0	1.7	1.7	1.7
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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