

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: P837520

Luminaire Tested: HCSQ440D010-HM43040830-41SQLWW

Issue Date: 5/17/2024

**Test Information**

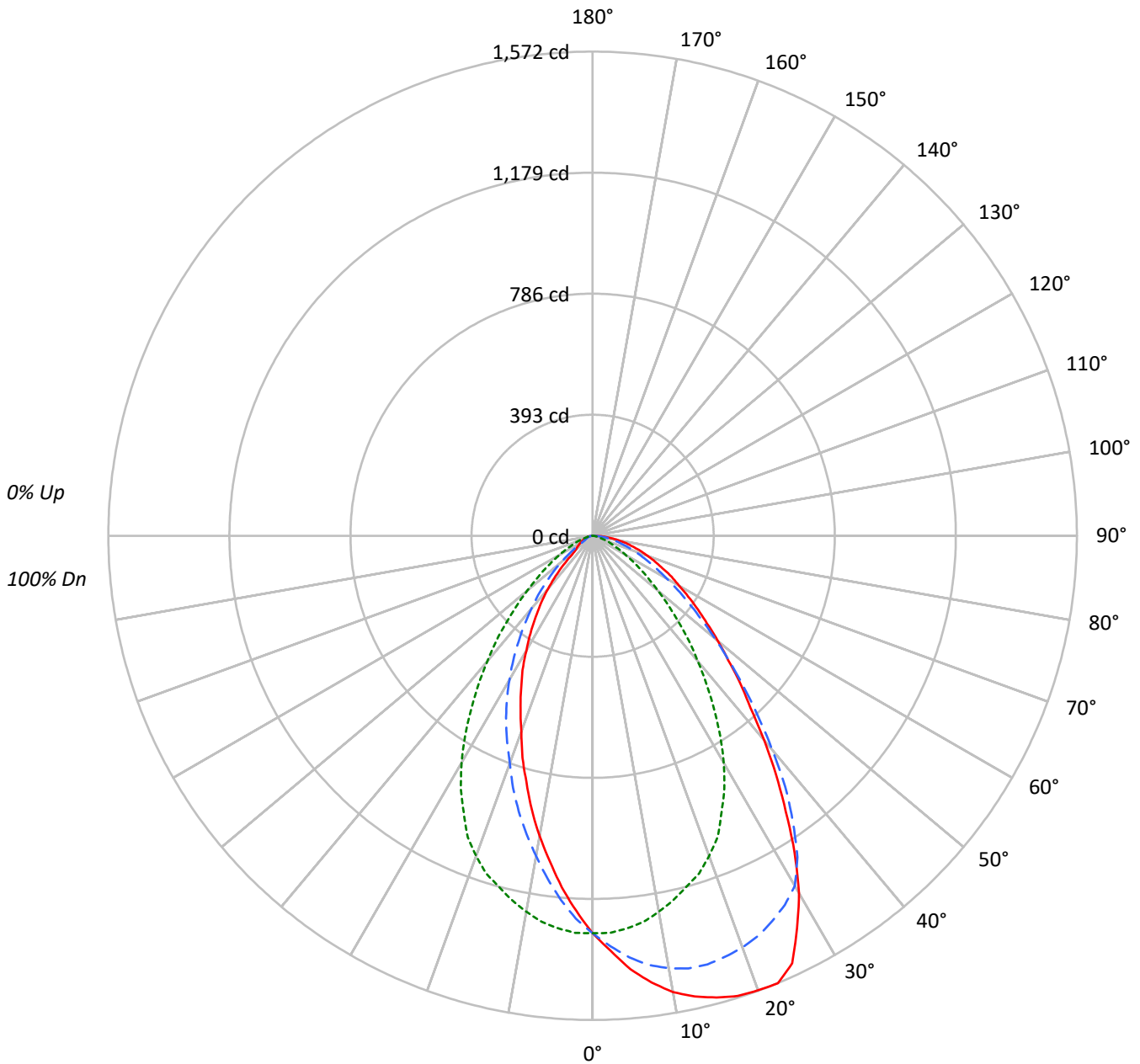
Test Method: LM-79-2019  
Report Number: P837520  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ440D010-HM43040830-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2087.2 lumens  
Efficiency: N/A  
Efficacy: 50.9 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12  
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 (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

TEST NUMBER: P837520  
CATALOG NUMBER: HCSQ440D010-HM43040830-41SQLWW

### Luminous Intensity Polar Plot





TEST NUMBER: P837520

CATALOG NUMBER: HCSQ440D010-HM43040830-41SQLWW

**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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89	89	89	89	89	89		
	2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78	78	78	78	78	78		
	3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69	69	69	69	69	69		
	4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62	62	62	62	62	62		
	5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55	55	55	55	55	55		
	6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50	50	50	50	50	50		
	7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45	45	45	45	45	45		
	8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42	42	42	42	42	42		
	9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38	38	38	38	38	38		
	10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35	35	35	35	35	35		

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

	0°	45°	90°	135°	180°
0°	125008	125008	125008	125008	125008
5°	137408	133674	124416	115333	111424
10°	147997	140256	121890	103888	97406
15°	155664	144472	118215	92881	83153
20°	161897	146608	113969	80948	69814
25°	163756	147519	105843	71018	58693
30°	149873	146797	95206	60394	48112
35°	129226	133992	81176	49564	38093
40°	109478	114574	67126	39115	28467
45°	92778	95039	53664	29086	18304
50°	79998	78069	41657	19592	11032
55°	70481	64299	31837	10826	9897
60°	62775	53901	23754	6026	8874
65°	57490	46143	17628	5456	7977
70°	53392	39909	12973	5183	7789
75°	50006	34922	8908	4791	6850
80°	47978	30628	6137	5133	6137
85°	46795	26454	4113	4113	4113

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 96546 cd/sqm



TEST NUMBER: P837520  
 CATALOG NUMBER: HCSQ440D010-HM43040830-41SQLWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.0	5.8
10°-20°	333.1	16.0
20°-30°	465.8	22.3
30°-40°	455.3	21.8
40°-50°	330.4	15.8
50°-60°	199.2	9.5
60°-70°	111.9	5.4
70°-80°	55.4	2.7
80°-90°	15.2	0.7
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°	919.9	44.1
0°-40°	1375.1	65.9
0°-60°	1904.6	91.3
0°-90°	2087.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2087.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1290	1290	1290	1290	1290	
5°	1413	1375	1279	1186	1146	137
15°	1552	1440	1179	926	829	440
25°	1532	1380	990	664	549	691
35°	1093	1133	686	419	322	684
45°	677	694	392	212	134	525
55°	417	381	188	64	59	375
65°	251	201	77	24	35	251
75°	134	93	24	13	18	144
85°	42	24	4	4	4	47
90°	0	0	0	0	0	



TEST NUMBER: P837520

CATALOG NUMBER: HCSQ440D010-HM43040830-41SQLWW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1290.4	1290.4	1290.4	1290.4	1290.4	1290.4	1290.4	1290.4	1290.4
2.5°	1348.9	1345.3	1334.3	1312.3	1290.4	1264.7	1244.6	1230.0	1219.0
5°	1413.0	1405.7	1374.6	1328.8	1279.4	1230.0	1186.0	1160.4	1145.8
7.5°	1462.4	1449.6	1405.7	1341.6	1264.7	1189.7	1122.0	1081.7	1065.2
10°	1504.5	1482.5	1425.8	1339.8	1239.1	1140.3	1056.1	1008.5	990.2
12.5°	1532.0	1508.2	1438.6	1338.0	1211.7	1090.9	992.0	929.8	911.5
15°	1552.1	1522.8	1440.5	1323.3	1178.7	1039.6	926.1	852.9	829.1
17.5°	1566.7	1526.5	1433.1	1306.8	1149.4	986.5	858.4	779.7	755.9
20°	1570.4	1526.5	1422.1	1283.0	1105.5	933.5	785.2	706.5	677.2
22.5°	1572.2	1521.0	1405.7	1253.8	1059.7	873.1	724.8	642.4	611.3
25°	1532.0	1502.7	1380.1	1204.3	990.2	807.2	664.4	574.7	549.1
27.5°	1436.8	1435.0	1350.8	1138.5	926.1	735.8	602.2	516.1	492.4
30°	1339.8	1341.6	1312.3	1065.2	851.1	668.1	539.9	455.7	430.1
32.5°	1220.8	1239.1	1237.3	982.9	770.6	604.0	479.5	400.8	375.2
35°	1092.7	1125.6	1133.0	889.5	686.4	530.8	419.1	347.8	322.1
37.5°	977.4	1010.3	1026.8	807.2	607.7	466.7	362.4	300.2	274.5
40°	865.7	893.2	906.0	712.0	530.8	400.8	309.3	250.8	225.1
42.5°	757.7	798.0	794.4	631.5	463.1	347.8	261.7	203.2	177.5
45°	677.2	704.7	693.7	547.3	391.7	292.8	212.3	157.4	133.6
47.5°	596.7	616.8	600.3	475.9	331.3	241.6	172.0	115.3	89.7
50°	530.8	539.9	518.0	404.5	276.4	197.7	130.0	76.9	73.2
52.5°	468.6	474.0	442.9	344.1	228.8	159.2	95.2	60.4	64.1
55°	417.3	415.5	380.7	291.0	188.5	122.6	64.1	54.9	58.6
57.5°	367.9	362.4	327.6	241.6	153.7	95.2	38.4	47.6	51.2
60°	324.0	318.5	278.2	199.5	122.6	71.4	31.1	42.1	45.8
62.5°	289.2	276.4	236.1	164.7	98.8	51.2	27.5	36.6	40.3
65°	250.8	239.8	201.3	133.6	76.9	36.6	23.8	31.1	34.8
67.5°	219.6	206.8	170.2	109.8	62.2	25.6	22.0	27.5	31.1
70°	188.5	177.5	140.9	87.9	45.8	16.5	18.3	23.8	27.5
72.5°	162.9	150.1	117.1	69.6	34.8	12.8	16.5	20.1	22.0
75°	133.6	122.6	93.3	53.1	23.8	11.0	12.8	16.5	18.3
77.5°	111.6	100.7	73.2	40.3	16.5	9.2	11.0	14.6	14.6
80°	86.0	76.9	54.9	27.5	11.0	5.5	9.2	11.0	11.0
82.5°	62.2	54.9	38.4	18.3	5.5	5.5	5.5	7.3	7.3
85°	42.1	36.6	23.8	11.0	3.7	3.7	3.7	3.7	3.7
87.5°	23.8	18.3	11.0	3.7	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)