

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: P837440

Luminaire Tested: HCSQ430D010-HM43040830-41SQLWW

Issue Date: 5/17/2024

**Test Information**

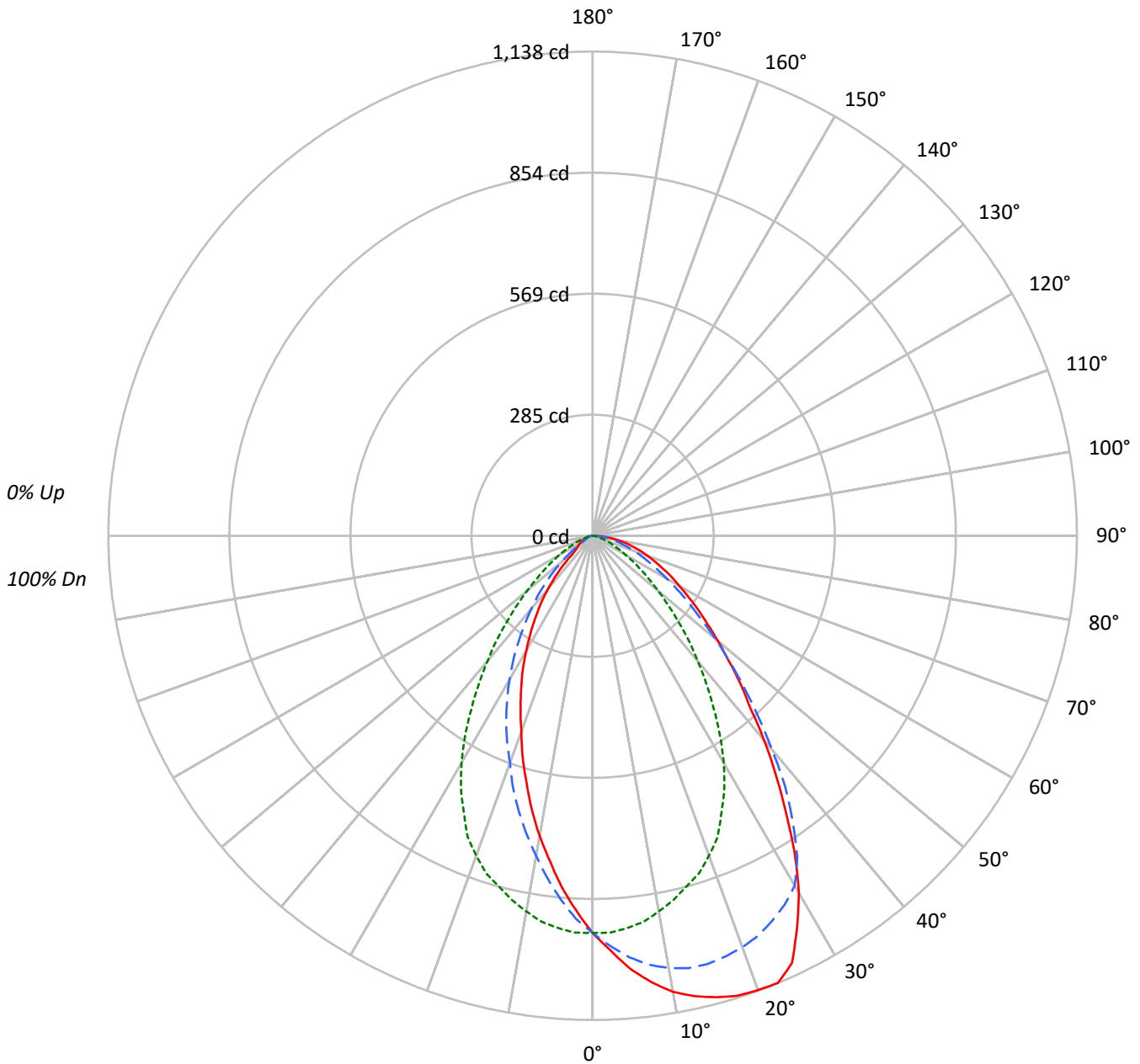
Test Method: LM-79-2019  
Report Number: P837440  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040830-41SQLWW  
Description: 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: 1510.2 lumens  
Efficiency: N/A  
Efficacy: 53.6 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): 28.2  
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

TEST NUMBER: P837440  
CATALOG NUMBER: HCSQ430D010-HM43040830-41SQLWW

### Luminous Intensity Polar Plot





TEST NUMBER: P837440

CATALOG NUMBER: HCSQ430D010-HM43040830-41SQLWW

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					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			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89					89			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78					78			
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69					69			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62					62			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55					55			
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50					50			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45					45			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42					42			
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38					38			
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35					35			

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

	0°	45°	90°	135°	180°
0°	90443	90443	90443	90443	90443
5°	99424	96711	90020	83446	80617
10°	107085	101478	88198	75164	70472
15°	112629	104525	85530	67206	60166
20°	117134	106082	82464	58567	50515
25°	118477	106730	76576	51382	42467
30°	108439	106213	68885	43705	34811
35°	93499	96940	58729	35869	27567
40°	79216	82896	48561	28302	20601
45°	67131	68762	38827	21044	13248
50°	57873	56487	30142	14167	7988
55°	50990	46531	23038	7837	7161
60°	45415	39002	17186	4359	6413
65°	41582	33398	12745	3943	5777
70°	38635	28891	9375	3739	5637
75°	36195	25265	6438	3481	4941
80°	34700	22148	4407	3682	4407
85°	33901	19118	2890	2890	2890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 69858 cd/sqm



TEST NUMBER: P837440

CATALOG NUMBER: HCSQ430D010-HM43040830-41SQLWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.5	5.8
10°-20°	241.0	16.0
20°-30°	337.0	22.3
30°-40°	329.4	21.8
40°-50°	239.0	15.8
50°-60°	144.1	9.5
60°-70°	81.0	5.4
70°-80°	40.1	2.7
80°-90°	11.0	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°	665.6	44.1
0°-40°	995.0	65.9
0°-60°	1378.1	91.3
0°-90°	1510.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1510.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	934	934	934	934	934	
5°	1022	994	926	858	829	99
15°	1123	1042	853	670	600	318
25°	1108	998	716	481	397	500
35°	791	820	497	303	233	495
45°	490	502	283	154	97	380
55°	302	276	136	46	42	272
65°	181	146	56	17	25	182
75°	97	68	17	9	13	104
85°	30	17	3	3	3	34
90°	0	0	0	0	0	



TEST NUMBER: P837440

CATALOG NUMBER: HCSQ430D010-HM43040830-41SQLWW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6
2.5°	976.0	973.4	965.4	949.5	933.6	915.1	900.5	889.9	882.0
5°	1022.4	1017.1	994.5	961.4	925.7	889.9	858.1	839.6	829.0
7.5°	1058.1	1048.8	1017.1	970.7	915.1	860.8	811.8	782.7	770.7
10°	1088.6	1072.7	1031.6	969.4	896.6	825.0	764.1	729.7	716.4
12.5°	1108.4	1091.2	1040.9	968.1	876.7	789.3	717.8	672.7	659.5
15°	1123.0	1101.8	1042.2	957.5	852.8	752.2	670.1	617.1	599.9
17.5°	1133.6	1104.5	1036.9	945.6	831.7	713.8	621.1	564.2	546.9
20°	1136.2	1104.5	1029.0	928.3	799.9	675.4	568.1	511.2	490.0
22.5°	1137.6	1100.5	1017.1	907.1	766.8	631.7	524.4	464.8	442.3
25°	1108.4	1087.3	998.5	871.4	716.4	584.0	480.7	415.8	397.3
27.5°	1039.6	1038.3	977.3	823.7	670.1	532.4	435.7	373.5	356.2
30°	969.4	970.7	949.5	770.7	615.8	483.4	390.7	329.8	311.2
32.5°	883.3	896.6	895.2	711.1	557.5	437.0	347.0	290.0	271.5
35°	790.6	814.4	819.7	643.6	496.6	384.0	303.3	251.6	233.1
37.5°	707.2	731.0	742.9	584.0	439.7	337.7	262.2	217.2	198.6
40°	626.4	646.3	655.5	515.2	384.0	290.0	223.8	181.4	162.9
42.5°	548.3	577.4	574.7	456.9	335.0	251.6	189.4	147.0	128.5
45°	490.0	509.9	501.9	396.0	283.4	211.9	153.6	113.9	96.7
47.5°	431.7	446.3	434.4	344.3	239.7	174.8	124.5	83.4	64.9
50°	384.0	390.7	374.8	292.7	200.0	143.0	94.0	55.6	53.0
52.5°	339.0	343.0	320.5	249.0	165.5	115.2	68.9	43.7	46.4
55°	301.9	300.6	275.5	210.6	136.4	88.7	46.4	39.7	42.4
57.5°	266.2	262.2	237.0	174.8	111.2	68.9	27.8	34.4	37.1
60°	234.4	230.4	201.3	144.3	88.7	51.6	22.5	30.5	33.1
62.5°	209.2	200.0	170.8	119.2	71.5	37.1	19.9	26.5	29.1
65°	181.4	173.5	145.7	96.7	55.6	26.5	17.2	22.5	25.2
67.5°	158.9	149.6	123.2	79.5	45.0	18.5	15.9	19.9	22.5
70°	136.4	128.5	102.0	63.6	33.1	11.9	13.2	17.2	19.9
72.5°	117.9	108.6	84.8	50.3	25.2	9.3	11.9	14.6	15.9
75°	96.7	88.7	67.5	38.4	17.2	7.9	9.3	11.9	13.2
77.5°	80.8	72.8	53.0	29.1	11.9	6.6	7.9	10.6	10.6
80°	62.2	55.6	39.7	19.9	7.9	4.0	6.6	7.9	7.9
82.5°	45.0	39.7	27.8	13.2	4.0	4.0	4.0	5.3	5.3
85°	30.5	26.5	17.2	7.9	2.6	2.6	2.6	2.6	2.6
87.5°	17.2	13.2	7.9	2.6	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)