

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: P837570

Luminaire Tested: HCSQ445D010-HM44560840-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837570
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: HCSQ445D010-HM44560840-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

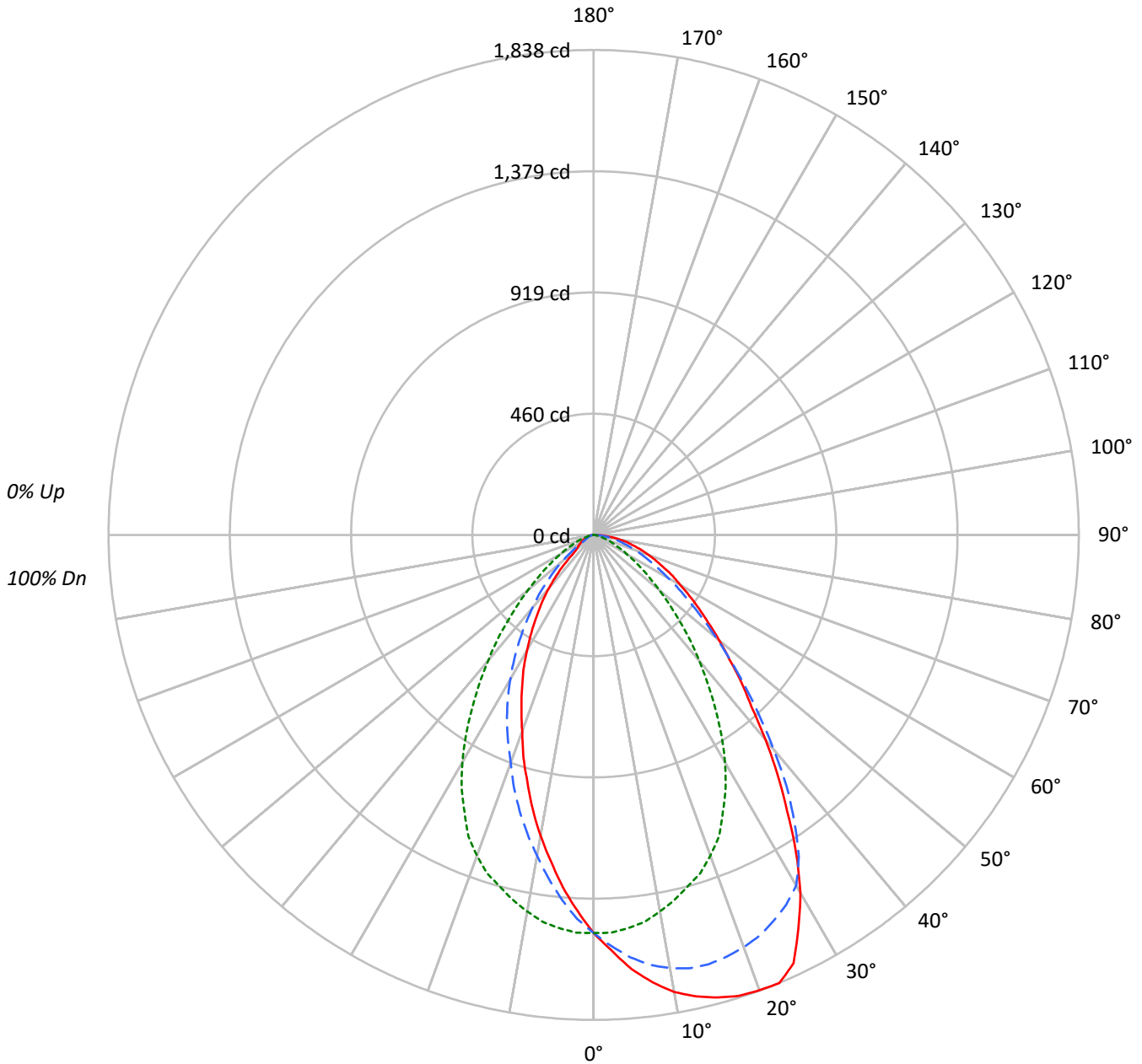
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2440.6 lumens
Efficiency: N/A
Efficacy: 53.2 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): 45.9
Input Voltage (V): NR
Input Current (A_{in}): 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: P837570
CATALOG NUMBER: HCSQ445D010-HM44560840-41SQLWW

Luminous Intensity Polar Plot





TEST NUMBER: P837570

CATALOG NUMBER: HCSQ445D010-HM44560840-41SQLWW

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°	146166	146166	146166	146166	146166
5°	160669	156303	145479	134870	130289
10°	173052	164002	142528	121477	113902
15°	182021	168923	138234	108607	97234
20°	189309	171433	133268	94649	81639
25°	191483	172489	123768	83043	68634
30°	175243	171652	111325	70630	56255
35°	151105	156675	94918	57961	44550
40°	128017	133974	78495	45741	33285
45°	108492	111123	62747	34018	21400
50°	93547	91286	48710	22908	12901
55°	82422	75193	37225	12650	11569
60°	73393	63027	27784	7053	10366
65°	67209	53960	20607	6373	9330
70°	62427	46679	15154	6061	9092
75°	58465	40873	10405	5614	8010
80°	56123	35816	7141	5969	7141
85°	54687	30900	4780	4780	4780

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 112890 cd/sqm



TEST NUMBER: P837570

CATALOG NUMBER: HCSQ445D010-HM44560840-41SQLWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.5	5.8
10°-20°	389.5	16.0
20°-30°	544.6	22.3
30°-40°	532.4	21.8
40°-50°	386.3	15.8
50°-60°	232.9	9.5
60°-70°	130.9	5.4
70°-80°	64.8	2.7
80°-90°	17.7	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°	1075.6	44.1
0°-40°	1608.0	65.9
0°-60°	2227.1	91.3
0°-90°	2440.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2440.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1509	1509	1509	1509	1509	
5°	1652	1607	1496	1387	1340	161
15°	1815	1684	1378	1083	970	514
25°	1791	1614	1158	777	642	807
35°	1278	1325	803	490	377	800
45°	792	811	458	248	156	614
55°	488	445	220	75	68	439
65°	293	235	90	28	41	294
75°	156	109	28	15	21	168
85°	49	28	4	4	4	54
90°	0	0	0	0	0	



TEST NUMBER: P837570

CATALOG NUMBER: HCSQ445D010-HM44560840-41SQLWW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1508.8	1508.8	1508.8	1508.8	1508.8	1508.8	1508.8	1508.8	1508.8
2.5°	1577.3	1573.1	1560.2	1534.5	1508.8	1478.9	1455.3	1438.2	1425.4
5°	1652.2	1643.7	1607.3	1553.8	1496.0	1438.2	1386.9	1356.9	1339.8
7.5°	1710.0	1695.0	1643.7	1568.8	1478.9	1391.1	1311.9	1264.9	1245.6
10°	1759.2	1733.6	1667.2	1566.6	1448.9	1333.3	1234.9	1179.3	1157.9
12.5°	1791.4	1763.5	1682.2	1564.5	1416.8	1275.6	1160.0	1087.2	1065.8
15°	1814.9	1780.7	1684.3	1547.4	1378.3	1215.6	1082.9	997.3	969.5
17.5°	1832.0	1784.9	1675.8	1528.1	1344.0	1153.6	1003.8	911.7	883.9
20°	1836.3	1784.9	1662.9	1500.3	1292.7	1091.5	918.1	826.1	791.9
22.5°	1838.4	1778.5	1643.7	1466.0	1239.2	1020.9	847.5	751.2	714.8
25°	1791.4	1757.1	1613.7	1408.3	1157.9	943.8	776.9	672.0	642.1
27.5°	1680.1	1677.9	1579.5	1331.2	1082.9	860.4	704.1	603.5	575.7
30°	1566.6	1568.8	1534.5	1245.6	995.2	781.2	631.4	532.9	502.9
32.5°	1427.5	1448.9	1446.8	1149.3	901.0	706.3	560.7	468.7	438.7
35°	1277.7	1316.2	1324.8	1040.1	802.6	620.7	490.1	406.6	376.7
37.5°	1142.9	1181.4	1200.7	943.8	710.5	545.8	423.8	351.0	321.0
40°	1012.3	1044.4	1059.4	832.5	620.7	468.7	361.7	293.2	263.2
42.5°	886.0	933.1	928.8	738.4	541.5	406.6	306.0	237.6	207.6
45°	791.9	824.0	811.1	639.9	458.0	342.4	248.3	184.1	156.2
47.5°	697.7	721.2	702.0	556.5	387.4	282.5	201.2	134.8	104.9
50°	620.7	631.4	605.7	473.0	323.2	231.1	152.0	89.9	85.6
52.5°	547.9	554.3	517.9	402.4	267.5	186.2	111.3	70.6	74.9
55°	488.0	485.8	445.2	340.3	220.4	143.4	74.9	64.2	68.5
57.5°	430.2	423.8	383.1	282.5	179.8	111.3	44.9	55.6	59.9
60°	378.8	372.4	325.3	233.3	143.4	83.5	36.4	49.2	53.5
62.5°	338.2	323.2	276.1	192.6	115.6	59.9	32.1	42.8	47.1
65°	293.2	280.4	235.4	156.2	89.9	42.8	27.8	36.4	40.7
67.5°	256.8	241.8	199.0	128.4	72.8	30.0	25.7	32.1	36.4
70°	220.4	207.6	164.8	102.7	53.5	19.3	21.4	27.8	32.1
72.5°	190.5	175.5	137.0	81.3	40.7	15.0	19.3	23.5	25.7
75°	156.2	143.4	109.2	62.1	27.8	12.8	15.0	19.3	21.4
77.5°	130.6	117.7	85.6	47.1	19.3	10.7	12.8	17.1	17.1
80°	100.6	89.9	64.2	32.1	12.8	6.4	10.7	12.8	12.8
82.5°	72.8	64.2	44.9	21.4	6.4	6.4	6.4	8.6	8.6
85°	49.2	42.8	27.8	12.8	4.3	4.3	4.3	4.3	4.3
87.5°	27.8	21.4	12.8	4.3	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)