

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: P837590

Luminaire Tested: HCSQ445D010-HM44560940-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837590
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-HM44560940-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

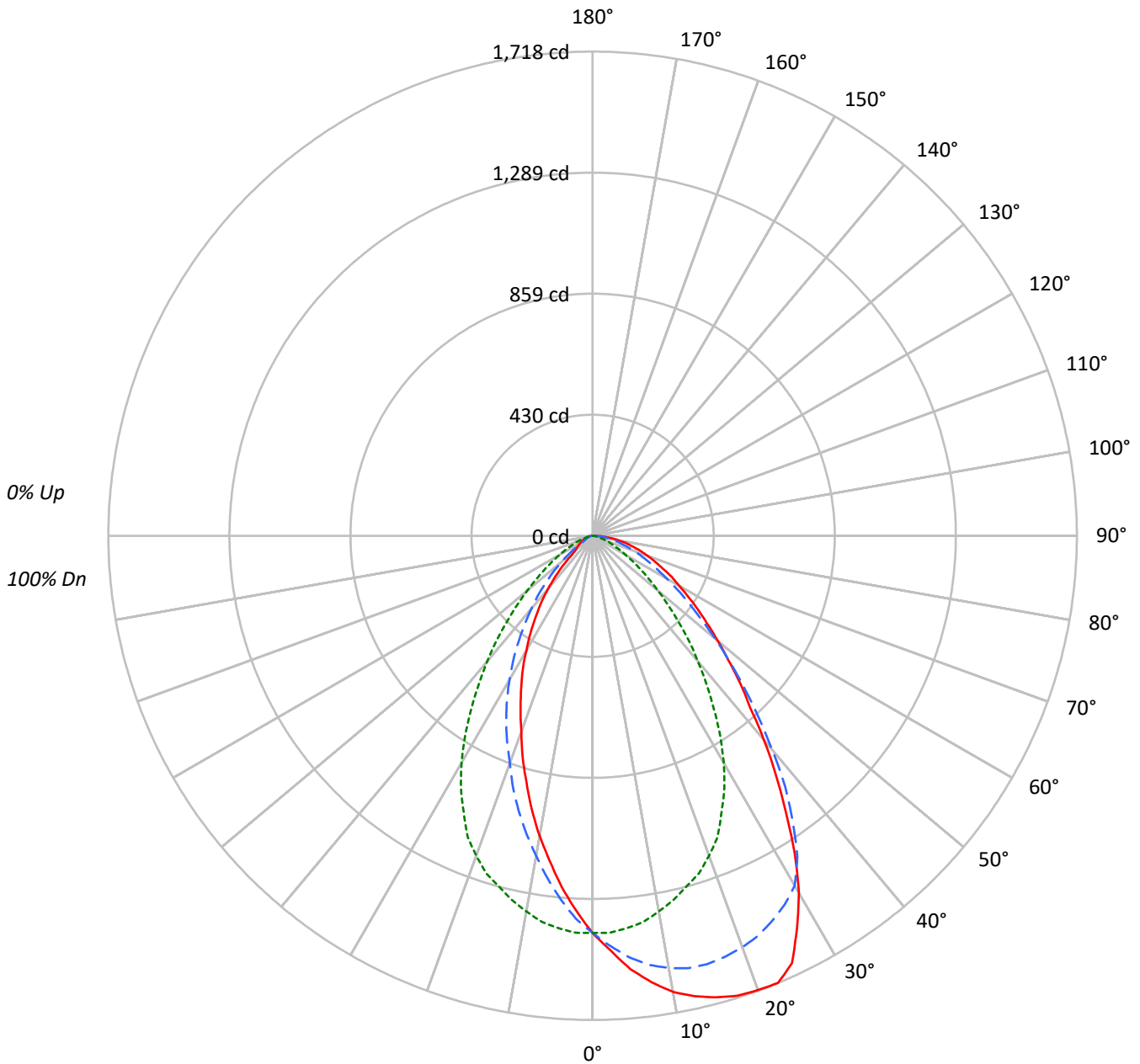
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2280.1 lumens
Efficiency: N/A
Efficacy: 49.7 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

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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	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°	136556	136556	136556	136556	136556
5°	150108	146024	135910	125991	121712
10°	161671	153221	133153	113489	106407
15°	170046	157811	129137	101466	90835
20°	176855	160165	124505	88433	76268
25°	178881	161148	115623	77581	64113
30°	163721	160366	103998	65976	52564
35°	141171	146362	88674	54153	41617
40°	119595	125159	73323	42731	31097
45°	101354	103821	58623	31771	20002
50°	87382	85273	45500	21401	12057
55°	77000	70244	34776	11823	10809
60°	68568	58881	25963	6588	9688
65°	62785	50407	19255	5960	8711
70°	58320	43620	14162	5665	8497
75°	54647	38178	9732	5240	7486
80°	52441	33473	6695	5579	6695
85°	51130	28900	4446	4446	4446

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 105465 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.2	5.8
10°-20°	363.9	16.0
20°-30°	508.8	22.3
30°-40°	497.3	21.8
40°-50°	360.9	15.8
50°-60°	217.6	9.5
60°-70°	122.3	5.4
70°-80°	60.6	2.7
80°-90°	16.6	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°	1004.9	44.1
0°-40°	1502.2	65.9
0°-60°	2080.6	91.3
0°-90°	2280.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2280.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1410	1410	1410	1410	1410	
5°	1544	1502	1398	1296	1252	150
15°	1696	1574	1288	1012	906	480
25°	1674	1508	1082	726	600	754
35°	1194	1238	750	458	352	747
45°	740	758	428	232	146	574
55°	456	416	206	70	64	410
65°	274	220	84	26	38	274
75°	146	102	26	14	20	157
85°	46	26	4	4	4	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1409.6	1409.6	1409.6	1409.6	1409.6	1409.6	1409.6	1409.6	1409.6
2.5°	1473.6	1469.6	1457.6	1433.6	1409.6	1381.6	1359.6	1343.6	1331.6
5°	1543.6	1535.6	1501.6	1451.6	1397.6	1343.6	1295.6	1267.6	1251.6
7.5°	1597.5	1583.5	1535.6	1465.6	1381.6	1299.6	1225.6	1181.7	1163.7
10°	1643.5	1619.5	1557.6	1463.6	1353.6	1245.6	1153.7	1101.7	1081.7
12.5°	1673.5	1647.5	1571.5	1461.6	1323.6	1191.7	1083.7	1015.7	995.7
15°	1695.5	1663.5	1573.5	1445.6	1287.6	1135.7	1011.7	931.7	905.7
17.5°	1711.5	1667.5	1565.5	1427.6	1255.6	1077.7	937.7	851.8	825.8
20°	1715.5	1667.5	1553.6	1401.6	1207.7	1019.7	857.8	771.8	739.8
22.5°	1717.5	1661.5	1535.6	1369.6	1157.7	953.7	791.8	701.8	667.8
25°	1673.5	1641.5	1507.6	1315.6	1081.7	881.7	725.8	627.8	599.8
27.5°	1569.5	1567.5	1475.6	1243.6	1011.7	803.8	657.8	563.8	537.8
30°	1463.6	1465.6	1433.6	1163.7	929.7	729.8	589.8	497.9	469.9
32.5°	1333.6	1353.6	1351.6	1073.7	841.8	659.8	523.8	437.9	409.9
35°	1193.7	1229.6	1237.6	971.7	749.8	579.8	457.9	379.9	351.9
37.5°	1067.7	1103.7	1121.7	881.7	663.8	509.9	395.9	327.9	299.9
40°	945.7	975.7	989.7	777.8	579.8	437.9	337.9	273.9	245.9
42.5°	827.8	871.7	867.7	689.8	505.9	379.9	285.9	221.9	193.9
45°	739.8	769.8	757.8	597.8	427.9	319.9	231.9	172.0	146.0
47.5°	651.8	673.8	655.8	519.9	361.9	263.9	187.9	126.0	98.0
50°	579.8	589.8	565.8	441.9	301.9	215.9	142.0	84.0	80.0
52.5°	511.9	517.9	483.9	375.9	249.9	173.9	104.0	66.0	70.0
55°	455.9	453.9	415.9	317.9	205.9	134.0	70.0	60.0	64.0
57.5°	401.9	395.9	357.9	263.9	168.0	104.0	42.0	52.0	56.0
60°	353.9	347.9	303.9	217.9	134.0	78.0	34.0	46.0	50.0
62.5°	315.9	301.9	257.9	179.9	108.0	56.0	30.0	40.0	44.0
65°	273.9	261.9	219.9	146.0	84.0	40.0	26.0	34.0	38.0
67.5°	239.9	225.9	185.9	120.0	68.0	28.0	24.0	30.0	34.0
70°	205.9	193.9	154.0	96.0	50.0	18.0	20.0	26.0	30.0
72.5°	177.9	164.0	128.0	76.0	38.0	14.0	18.0	22.0	24.0
75°	146.0	134.0	102.0	58.0	26.0	12.0	14.0	18.0	20.0
77.5°	122.0	110.0	80.0	44.0	18.0	10.0	12.0	16.0	16.0
80°	94.0	84.0	60.0	30.0	12.0	6.0	10.0	12.0	12.0
82.5°	68.0	60.0	42.0	20.0	6.0	6.0	6.0	8.0	8.0
85°	46.0	40.0	26.0	12.0	4.0	4.0	4.0	4.0	4.0
87.5°	26.0	20.0	12.0	4.0	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



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Scaled Data Report





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

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