

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: P837710

Luminaire Tested: HCSQ460D010-HM44560940-41SQLWW

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837710
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: HCSQ460D010-HM44560940-41SQLWW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

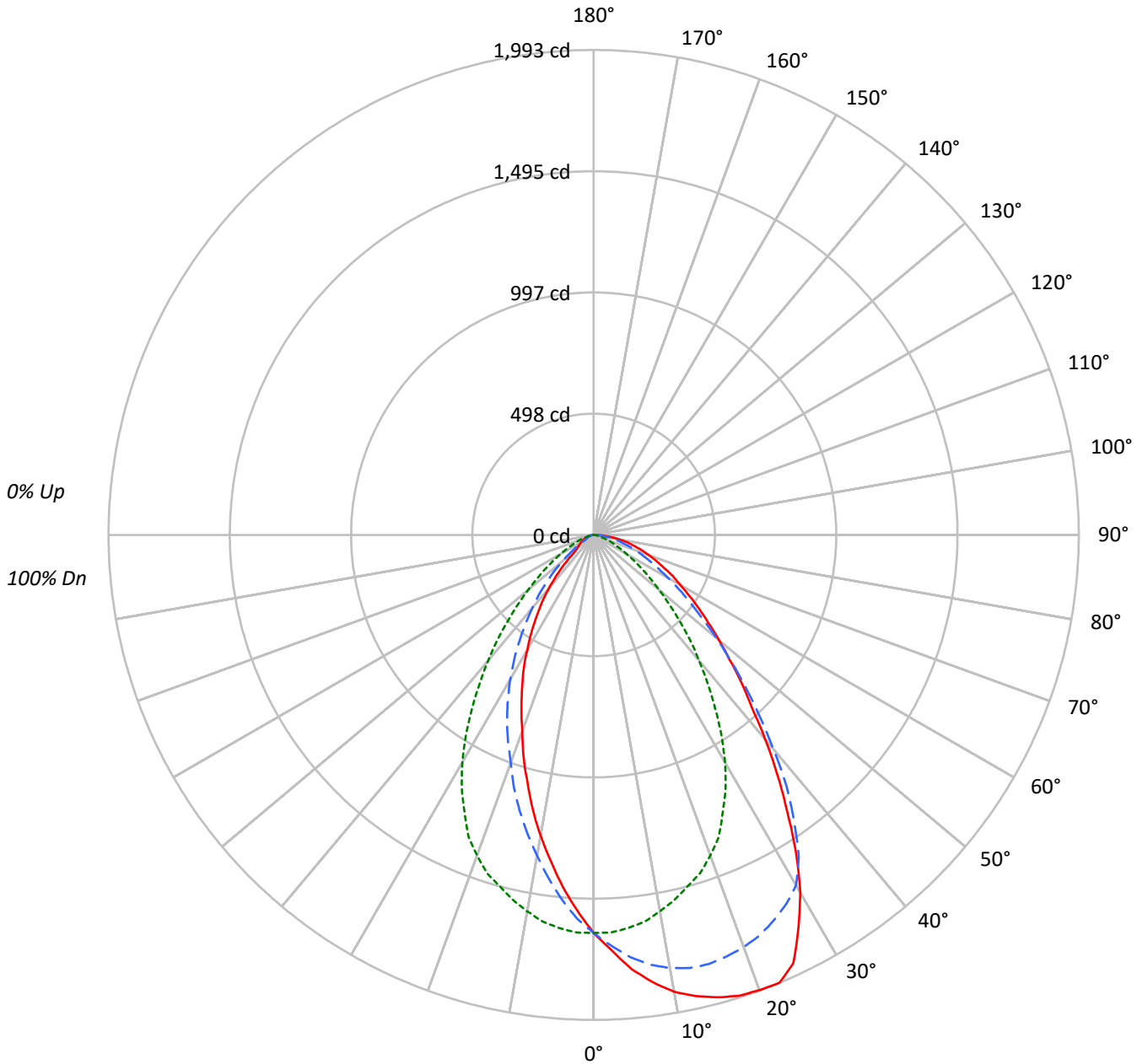
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2645.4 lumens
Efficiency: N/A
Efficacy: 47.2 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): 56
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					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°	158430	158430	158430	158430	158430
5°	174157	169421	157684	146179	141220
10°	187582	177764	154490	131668	123454
15°	197296	183105	149827	117724	105398
20°	205196	185825	144443	102598	88484
25°	207549	186962	134147	90012	74385
30°	189953	186060	120666	76547	60976
35°	163783	169814	102877	62821	48287
40°	138767	145216	85071	49573	36080
45°	117589	120453	68008	36867	23195
50°	101384	98942	52794	24822	13986
55°	89330	81493	40350	13714	12532
60°	79554	68317	30109	7634	11238
65°	72848	58499	22327	6923	10109
70°	67667	50588	16428	6571	9857
75°	63369	44279	11304	6064	8684
80°	60809	38829	7755	6471	7755
85°	59355	33568	5113	5113	5113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 122357 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	5.8
10°-20°	422.2	16.0
20°-30°	590.3	22.3
30°-40°	577.0	21.8
40°-50°	418.7	15.8
50°-60°	252.4	9.5
60°-70°	141.9	5.4
70°-80°	70.3	2.7
80°-90°	19.2	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°	1165.9	44.1
0°-40°	1742.9	65.9
0°-60°	2414.0	91.3
0°-90°	2645.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2645.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1635	1635	1635	1635	1635	
5°	1791	1742	1622	1503	1452	174
15°	1967	1826	1494	1174	1051	557
25°	1942	1749	1255	842	696	875
35°	1385	1436	870	531	408	867
45°	858	879	496	269	169	665
55°	529	482	239	81	74	476
65°	318	255	97	30	44	318
75°	169	118	30	16	23	182
85°	53	30	5	5	5	59
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°	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4	1635.4
2.5°	1709.7	1705.0	1691.1	1663.3	1635.4	1603.0	1577.5	1558.9	1545.0
5°	1790.9	1781.6	1742.2	1684.2	1621.5	1558.9	1503.2	1470.7	1452.2
7.5°	1853.5	1837.3	1781.6	1700.4	1603.0	1507.9	1422.0	1371.0	1350.1
10°	1906.9	1879.0	1807.1	1698.1	1570.5	1445.2	1338.5	1278.2	1255.0
12.5°	1941.7	1911.5	1823.4	1695.8	1535.7	1382.6	1257.3	1178.5	1155.3
15°	1967.2	1930.1	1825.7	1677.2	1493.9	1317.6	1173.8	1081.0	1050.9
17.5°	1985.7	1934.7	1816.4	1656.3	1456.8	1250.4	1088.0	988.2	958.1
20°	1990.4	1934.7	1802.5	1626.2	1401.1	1183.1	995.2	895.4	858.3
22.5°	1992.7	1927.7	1781.6	1589.1	1343.2	1106.5	918.6	814.2	774.8
25°	1941.7	1904.5	1749.1	1526.4	1255.0	1023.0	842.1	728.4	695.9
27.5°	1821.0	1818.7	1712.0	1442.9	1173.8	932.6	763.2	654.2	624.0
30°	1698.1	1700.4	1663.3	1350.1	1078.7	846.7	684.3	577.6	545.1
32.5°	1547.3	1570.5	1568.2	1245.7	976.6	765.5	607.8	508.0	475.6
35°	1384.9	1426.7	1435.9	1127.4	869.9	672.7	531.2	440.8	408.3
37.5°	1238.8	1280.5	1301.4	1023.0	770.2	591.5	459.3	380.4	348.0
40°	1097.3	1132.1	1148.3	902.4	672.7	508.0	392.0	317.8	285.3
42.5°	960.4	1011.4	1006.8	800.3	586.9	440.8	331.7	257.5	225.0
45°	858.3	893.1	879.2	693.6	496.4	371.2	269.1	199.5	169.3
47.5°	756.2	781.8	760.9	603.1	419.9	306.2	218.1	146.1	113.7
50°	672.7	684.3	656.5	512.7	350.3	250.5	164.7	97.4	92.8
52.5°	593.9	600.8	561.4	436.1	290.0	201.8	120.6	76.6	81.2
55°	528.9	526.6	482.5	368.8	238.9	155.4	81.2	69.6	74.2
57.5°	466.3	459.3	415.2	306.2	194.9	120.6	48.7	60.3	65.0
60°	410.6	403.6	352.6	252.9	155.4	90.5	39.4	53.4	58.0
62.5°	366.5	350.3	299.3	208.8	125.3	65.0	34.8	46.4	51.0
65°	317.8	303.9	255.2	169.3	97.4	46.4	30.2	39.4	44.1
67.5°	278.4	262.1	215.7	139.2	78.9	32.5	27.8	34.8	39.4
70°	238.9	225.0	178.6	111.3	58.0	20.9	23.2	30.2	34.8
72.5°	206.5	190.2	148.5	88.2	44.1	16.2	20.9	25.5	27.8
75°	169.3	155.4	118.3	67.3	30.2	13.9	16.2	20.9	23.2
77.5°	141.5	127.6	92.8	51.0	20.9	11.6	13.9	18.6	18.6
80°	109.0	97.4	69.6	34.8	13.9	7.0	11.6	13.9	13.9
82.5°	78.9	69.6	48.7	23.2	7.0	7.0	7.0	9.3	9.3
85°	53.4	46.4	30.2	13.9	4.6	4.6	4.6	4.6	4.6
87.5°	30.2	23.2	13.9	4.6	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



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Scaled Data Report





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

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