

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: P837373

Luminaire Tested: HCSQ420D010-HM40525927-41SQC

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837373
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ420D010-HM40525927-41SQC
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1595.2 lumens
Efficiency: N/A
Efficacy: 79.8 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20
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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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81																			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71																			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66																			
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62																			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58																			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55																			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	191232	191232	191232
5°	187129	187207	187207
10°	176997	176210	177479
15°	164229	161983	165112
20°	147423	144124	148330
25°	121085	124591	121513
30°	83706	101806	83080
35°	51539	71916	50309
40°	29074	42049	28871
45°	13276	21071	12728
50°	3376	8455	3497
55°	1621	2567	1486
60°	1085	930	1240
65°	917	734	917
70°	680	680	906
75°	599	599	898
80°	893	893	893
85°	889	1778	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 21071 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.6	11.3
10°-20°	453.5	28.4
20°-30°	518.4	32.5
30°-40°	321.8	20.2
40°-50°	101.4	6.4
50°-60°	13.1	0.8
60°-70°	3.9	0.2
70°-80°	2.1	0.1
80°-90°	1.4	0.1
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°	1151.5	72.2
0°-40°	1473.3	92.4
0°-60°	1587.8	99.5
0°-90°	1595.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1595.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1974	1974	1974	1974	1974	
5°	1924	1923	1925	1924	1925	180
15°	1638	1626	1615	1626	1646	457
25°	1133	1149	1166	1149	1137	508
35°	436	503	608	491	425	280
45°	97	116	154	117	93	82
55°	10	10	15	10	9	9
65°	4	4	3	4	4	4
75°	2	2	2	2	2	2
85°	1	2	2	2	2	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1974.0	1974.0	1974.0	1974.0	1974.0
2.5°	1962.0	1963.6	1962.0	1965.2	1962.0
5°	1924.3	1922.7	1925.1	1923.5	1925.1
7.5°	1873.0	1863.4	1862.6	1869.0	1869.8
10°	1799.3	1796.9	1791.3	1796.9	1804.2
12.5°	1724.0	1714.4	1706.4	1717.6	1724.0
15°	1637.5	1625.5	1615.1	1625.5	1646.3
17.5°	1542.2	1525.4	1516.5	1528.6	1548.6
20°	1430.0	1412.4	1398.0	1408.4	1438.8
22.5°	1295.4	1293.8	1284.2	1289.8	1301.0
25°	1132.8	1148.8	1165.6	1148.8	1136.8
27.5°	954.1	997.4	1035.9	985.4	946.9
30°	748.3	814.0	910.1	809.1	742.7
32.5°	578.4	647.3	769.9	638.5	573.6
35°	435.8	503.1	608.1	491.1	425.4
37.5°	320.5	370.9	462.3	367.7	320.5
40°	229.9	262.8	332.5	262.0	228.3
42.5°	159.4	181.1	232.3	179.5	154.6
45°	96.9	116.2	153.8	117.0	92.9
47.5°	51.3	73.7	96.9	70.5	51.3
50°	22.4	39.3	56.1	38.5	23.2
52.5°	12.0	16.8	30.4	16.8	12.0
55°	9.6	9.6	15.2	9.6	8.8
57.5°	7.2	7.2	8.0	7.2	7.2
60°	5.6	5.6	4.8	5.6	6.4
62.5°	4.8	4.8	4.0	4.8	4.8
65°	4.0	4.0	3.2	4.0	4.0
67.5°	3.2	3.2	3.2	3.2	3.2
70°	2.4	2.4	2.4	3.2	3.2
72.5°	2.4	2.4	2.4	2.4	2.4
75°	1.6	1.6	1.6	1.6	2.4
77.5°	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6
82.5°	0.8	1.6	1.6	1.6	1.6
85°	0.8	1.6	1.6	1.6	1.6
87.5°	0.8	0.8	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0

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

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