

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: P837300

Luminaire Tested: HCSQ410D010-HM40525930-41SQLWW

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837300  
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: HCSQ410D010-HM40525930-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

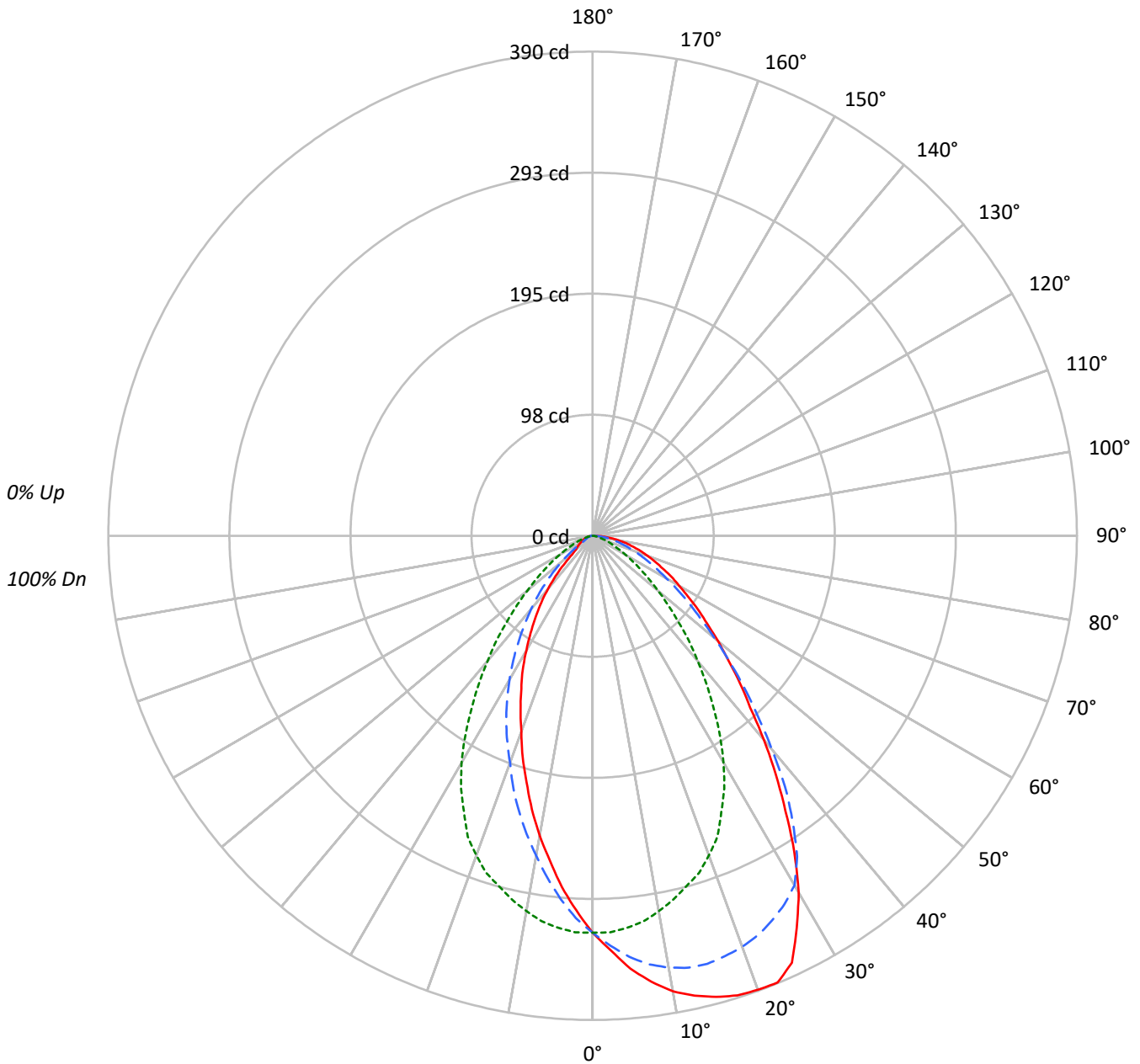
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 517.1 lumens  
Efficiency: N/A  
Efficacy: 52.2 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): 9.9  
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: P837300  
CATALOG NUMBER: HCSQ410D010-HM40525930-41SQLWW

### Luminous Intensity Polar Plot





TEST NUMBER: P837300

CATALOG NUMBER: HCSQ410D010-HM40525930-41SQLWW

**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	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°	30971	30971	30971	30971	30971
5°	34046	33112	30827	28571	27608
10°	36662	34744	30200	25734	24130
15°	38563	35795	29286	23007	20600
20°	40113	36320	28237	20052	17299
25°	40565	36546	26220	17594	14537
30°	37127	36366	23592	14967	11925
35°	32014	33196	20105	12276	9437
40°	27126	28391	16630	9687	7057
45°	22989	23551	13289	7206	4535
50°	19819	19336	10324	4853	2728
55°	17464	15927	7887	2685	2449
60°	15558	13349	5890	1492	2189
65°	14235	11438	4355	1352	1971
70°	13228	9885	3201	1275	1926
75°	12389	8646	2208	1198	1684
80°	11883	7587	1506	1283	1506
85°	11560	6558	1000	1000	1000

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 23921 cd/sqm



TEST NUMBER: P837300

CATALOG NUMBER: HCSQ410D010-HM40525930-41SQLWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.0	5.8
10°-20°	82.5	16.0
20°-30°	115.4	22.3
30°-40°	112.8	21.8
40°-50°	81.8	15.8
50°-60°	49.3	9.5
60°-70°	27.7	5.4
70°-80°	13.7	2.7
80°-90°	3.8	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°	227.9	44.1
0°-40°	340.7	65.9
0°-60°	471.9	91.3
0°-90°	517.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	517.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	320	320	320	320	320	
5°	350	340	317	294	284	34
15°	384	357	292	229	205	109
25°	380	342	245	165	136	171
35°	271	281	170	104	80	169
45°	168	172	97	53	33	130
55°	103	94	47	16	14	93
65°	62	50	19	6	9	62
75°	33	23	6	3	4	36
85°	10	6	1	1	1	12
90°	0	0	0	0	0	



TEST NUMBER: P837300

CATALOG NUMBER: HCSQ410D010-HM40525930-41SQLWW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	319.7	319.7	319.7	319.7	319.7	319.7	319.7	319.7	319.7
2.5°	334.2	333.3	330.6	325.1	319.7	313.3	308.3	304.7	302.0
5°	350.1	348.2	340.5	329.2	317.0	304.7	293.8	287.5	283.9
7.5°	362.3	359.1	348.2	332.4	313.3	294.7	278.0	268.0	263.9
10°	372.7	367.3	353.2	331.9	307.0	282.5	261.6	249.8	245.3
12.5°	379.5	373.6	356.4	331.5	300.2	270.3	245.8	230.4	225.8
15°	384.5	377.3	356.9	327.8	292.0	257.6	229.4	211.3	205.4
17.5°	388.2	378.2	355.0	323.8	284.8	244.4	212.7	193.2	187.3
20°	389.1	378.2	352.3	317.9	273.9	231.3	194.5	175.0	167.8
22.5°	389.5	376.8	348.2	310.6	262.5	216.3	179.6	159.2	151.5
25°	379.5	372.3	341.9	298.4	245.3	200.0	164.6	142.4	136.0
27.5°	356.0	355.5	334.6	282.0	229.4	182.3	149.2	127.9	122.0
30°	331.9	332.4	325.1	263.9	210.9	165.5	133.8	112.9	106.6
32.5°	302.4	307.0	306.5	243.5	190.9	149.6	118.8	99.3	93.0
35°	270.7	278.9	280.7	220.4	170.0	131.5	103.8	86.2	79.8
37.5°	242.1	250.3	254.4	200.0	150.5	115.6	89.8	74.4	68.0
40°	214.5	221.3	224.5	176.4	131.5	99.3	76.6	62.1	55.8
42.5°	187.7	197.7	196.8	156.4	114.7	86.2	64.8	50.3	44.0
45°	167.8	174.6	171.9	135.6	97.0	72.6	52.6	39.0	33.1
47.5°	147.8	152.8	148.7	117.9	82.1	59.9	42.6	28.6	22.2
50°	131.5	133.8	128.3	100.2	68.5	49.0	32.2	19.0	18.1
52.5°	116.1	117.4	109.7	85.2	56.7	39.4	23.6	15.0	15.9
55°	103.4	102.9	94.3	72.1	46.7	30.4	15.9	13.6	14.5
57.5°	91.1	89.8	81.2	59.9	38.1	23.6	9.5	11.8	12.7
60°	80.3	78.9	68.9	49.4	30.4	17.7	7.7	10.4	11.3
62.5°	71.6	68.5	58.5	40.8	24.5	12.7	6.8	9.1	10.0
65°	62.1	59.4	49.9	33.1	19.0	9.1	5.9	7.7	8.6
67.5°	54.4	51.2	42.2	27.2	15.4	6.3	5.4	6.8	7.7
70°	46.7	44.0	34.9	21.8	11.3	4.1	4.5	5.9	6.8
72.5°	40.4	37.2	29.0	17.2	8.6	3.2	4.1	5.0	5.4
75°	33.1	30.4	23.1	13.1	5.9	2.7	3.2	4.1	4.5
77.5°	27.7	24.9	18.1	10.0	4.1	2.3	2.7	3.6	3.6
80°	21.3	19.0	13.6	6.8	2.7	1.4	2.3	2.7	2.7
82.5°	15.4	13.6	9.5	4.5	1.4	1.4	1.4	1.8	1.8
85°	10.4	9.1	5.9	2.7	0.9	0.9	0.9	0.9	0.9
87.5°	5.9	4.5	2.7	0.9	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)