

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: P838431

Luminaire Tested: HCSQ620D010-HM60525840-61SQLWW

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-2019
Report Number: P838431
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-166-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ620D010-HM60525840-61SQLWW
Description: HALO COMMERCIAL 6" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: -

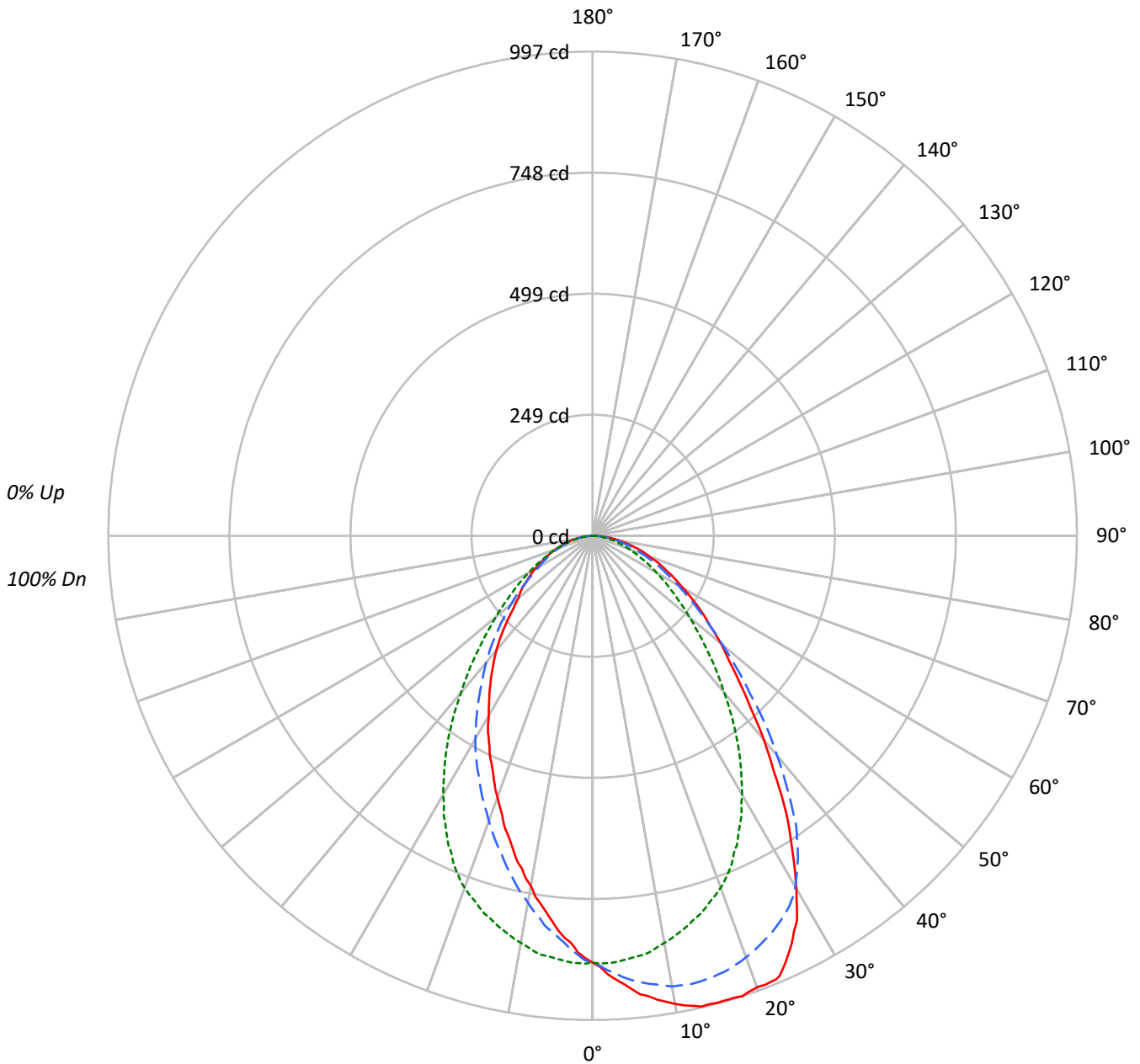
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1661.2 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.17
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 (Ain): 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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	66	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51								
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	34	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	85105	85105	85105	85105	85105
5°	91197	89315	84973	80578	79304
10°	96314	92709	83732	75410	71987
15°	99801	94426	81789	69904	65471
20°	102010	95222	79515	64381	59051
25°	101749	95212	75101	59014	53488
30°	93852	93377	68806	53973	47765
35°	82086	86373	61627	48275	43272
40°	69352	74758	53291	43174	39013
45°	58637	62631	45622	37881	34155
50°	52026	52523	39125	33036	30052
55°	46548	44952	33830	28442	28273
60°	41560	39176	29528	24606	26602
65°	38166	34820	25650	22854	24367
70°	35179	31171	22631	21300	22631
75°	33088	27810	19726	19351	20774
80°	30460	24937	17294	17852	18912
85°	30345	22453	14672	14672	16673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 40°
 Vertical Angle: 45°
 Luminance: 63144 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.9	5.0
10°-20°	230.9	13.9
20°-30°	329.4	19.8
30°-40°	339.5	20.4
40°-50°	273.3	16.5
50°-60°	193.3	11.6
60°-70°	125.2	7.5
70°-80°	67.3	4.1
80°-90°	19.4	1.2
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°	643.2	38.7
0°-40°	982.7	59.2
0°-60°	1449.3	87.2
0°-90°	1661.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1661.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	878	878	878	878	878	
5°	938	918	874	829	816	91
15°	995	942	816	697	653	281
25°	952	891	703	552	500	433
35°	694	730	521	408	366	431
45°	428	457	333	276	249	334
55°	276	266	200	168	167	246
65°	166	152	112	100	106	166
75°	88	74	53	52	56	94
85°	27	20	13	13	15	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	878.5	878.5	878.5	878.5	878.5	878.5	878.5	878.5	878.5	878.5	878.5
1°	887.9	891.7	888.8	888.8	886.0	885.1	887.0	884.1	883.2	881.3	877.6
2°	903.9	901.1	900.1	901.1	895.4	895.4	892.6	887.0	884.1	880.4	870.0
3°	915.2	913.3	911.4	910.5	904.8	900.1	896.4	889.8	884.1	879.4	864.4
4°	925.5	925.5	923.6	919.9	914.2	908.6	901.1	893.5	885.1	876.6	856.9
5°	937.8	938.7	930.2	929.3	922.7	914.2	905.8	895.4	885.1	873.8	852.2
6°	950.0	945.3	943.4	936.8	927.4	919.9	909.5	898.3	884.1	871.0	841.8
7°	955.6	954.7	950.0	943.4	934.9	922.7	912.4	897.3	882.3	869.1	834.3
8°	965.0	965.0	959.4	950.9	938.7	927.4	914.2	896.4	881.3	864.4	823.9
9°	971.6	971.6	964.1	956.6	945.3	930.2	915.2	895.4	876.6	856.9	814.5
10°	979.1	977.3	971.6	960.3	950.9	934.0	915.2	894.5	873.8	851.2	805.1
11°	984.8	982.0	975.4	966.9	951.9	934.9	915.2	894.5	870.0	845.6	795.7
12°	989.5	987.6	979.1	968.8	953.7	936.8	914.2	890.7	863.4	838.1	783.5
13°	995.1	989.5	981.0	971.6	954.7	934.9	910.5	885.1	858.7	831.5	773.2
14°	994.2	993.2	985.7	972.6	953.7	933.1	909.5	879.4	852.2	823.9	760.9
15°	995.1	994.2	985.7	973.5	952.8	930.2	906.7	875.7	845.6	815.5	748.7
16°	995.1	995.1	983.8	971.6	951.9	927.4	901.1	871.9	839.0	808.9	738.4
17°	995.1	995.1	985.7	968.8	949.0	925.5	895.4	864.4	831.5	799.5	723.3
18°	997.0	994.2	982.0	967.9	945.3	920.8	891.7	858.7	824.9	789.1	713.0
19°	992.3	990.4	980.1	962.2	942.5	915.2	886.0	852.2	818.3	780.7	700.7
20°	989.5	992.3	978.2	959.4	936.8	910.5	880.4	845.6	808.9	771.3	688.5
21°	990.4	989.5	974.4	954.7	933.1	903.9	873.8	838.1	798.5	760.0	677.2
22.5°	988.5	985.7	969.7	948.1	921.8	895.4	862.5	825.8	783.5	740.2	655.6
23°	984.8	982.0	969.7	946.2	918.0	891.7	856.9	818.3	777.9	733.6	649.9
24°	969.7	968.8	963.2	939.6	913.3	884.1	850.3	806.1	760.9	714.8	635.8
25°	951.9	953.7	950.9	935.9	905.8	875.7	839.9	791.0	744.9	702.6	618.9
26°	934.9	934.9	933.1	927.4	898.3	866.3	824.9	773.2	728.9	684.7	601.0
27°	913.3	917.1	913.3	910.5	890.7	855.9	808.9	760.9	711.1	667.8	586.0
28°	896.4	896.4	894.5	889.8	883.2	843.7	792.0	743.1	694.1	652.8	569.0
29°	866.3	871.9	872.9	873.8	872.9	827.7	776.0	723.3	676.3	631.1	553.1
30°	839.0	844.6	848.4	855.0	855.9	813.6	757.2	707.3	659.3	615.1	539.0
32.5°	764.7	775.0	785.4	796.7	802.3	771.3	711.1	656.5	607.6	568.1	495.7
35°	694.1	697.0	708.3	734.6	740.2	720.5	656.5	604.8	558.7	521.1	455.2
37.5°	614.2	619.8	635.8	665.9	667.8	651.8	607.6	547.4	504.1	471.2	413.9
40°	548.4	551.2	562.5	587.9	596.3	586.0	547.4	492.9	453.4	421.4	374.3
42.5°	482.5	486.3	500.4	520.1	532.4	520.1	486.3	439.2	400.7	377.2	336.7
45°	428.0	432.7	445.8	457.1	460.9	453.4	423.3	384.7	357.4	333.0	301.9
47.5°	380.9	385.6	395.0	399.7	404.4	396.9	373.4	341.4	314.2	294.4	266.2
50°	345.2	344.3	350.8	352.7	352.7	344.3	324.5	298.2	275.6	259.6	236.1
52.5°	304.7	306.6	311.3	309.4	308.5	301.0	284.1	261.5	242.7	228.6	206.9
55°	275.6	272.8	275.6	273.7	269.9	262.4	247.4	228.6	212.6	200.3	180.6
57.5°	243.6	243.6	244.5	240.8	236.1	227.6	214.5	199.4	185.3	174.9	159.0
60°	214.5	216.3	215.4	211.6	206.9	197.5	187.2	172.1	159.9	152.4	137.3



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	145.8	145.8	143.0	140.1	133.6	125.1	117.6	108.2	101.6	95.0	85.6
70°	124.2	126.0	122.3	117.6	112.9	107.2	98.8	91.2	84.7	79.9	72.4
72.5°	107.2	106.3	103.5	98.8	95.0	88.4	80.9	75.2	69.6	65.8	60.2
75°	88.4	88.4	85.6	81.8	77.1	71.5	65.8	61.1	56.4	52.7	49.9
77.5°	70.5	71.5	68.7	65.8	62.1	56.4	51.7	48.0	44.2	41.4	39.5
80°	54.6	55.5	52.7	50.8	46.1	43.3	39.5	35.7	32.9	31.0	30.1
82.5°	41.4	40.4	38.6	37.6	33.9	31.0	27.3	25.4	23.5	21.6	21.6
85°	27.3	26.3	25.4	24.5	21.6	18.8	17.9	16.0	14.1	13.2	13.2
87.5°	14.1	14.1	13.2	12.2	11.3	9.4	8.5	6.6	5.6	5.6	5.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	878.5	878.5	878.5
1°	874.7	871.0	870.0
2°	863.4	857.8	858.7
3°	853.1	846.5	839.9
4°	839.9	829.6	829.6
5°	828.6	818.3	815.5
6°	818.3	801.4	797.6
7°	808.9	788.2	781.6
8°	792.9	772.2	765.6
9°	781.6	759.0	752.5
10°	766.6	744.0	731.8
11°	754.3	728.9	719.5
12°	741.2	710.1	700.7
13°	726.1	694.1	688.5
14°	712.0	681.0	670.6
15°	697.0	665.0	652.8
16°	681.0	649.0	637.7
17°	667.8	632.1	623.6
18°	654.6	617.0	603.9
19°	638.7	602.9	587.9
20°	624.5	585.0	572.8
21°	609.5	571.9	558.7
22.5°	588.8	546.5	534.2
23°	582.2	539.0	525.8
24°	567.2	523.9	512.6
25°	552.1	512.6	500.4
26°	539.0	495.7	484.4
27°	525.8	482.5	470.3
28°	511.7	468.4	459.0
29°	497.6	453.4	444.0
30°	482.5	443.0	427.0
32.5°	444.9	409.2	396.0
35°	408.2	377.2	365.9
37.5°	372.5	347.1	336.7
40°	341.4	318.9	308.5
42.5°	309.4	288.8	278.4
45°	276.5	259.6	249.3
47.5°	246.4	232.3	221.0
50°	219.2	205.0	199.4
52.5°	192.8	183.4	186.2
55°	168.4	168.4	167.4
57.5°	144.8	151.4	152.4
60°	127.0	135.4	137.3



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	87.5	92.2	94.1
70°	75.2	79.0	79.9
72.5°	64.0	66.8	68.7
75°	51.7	55.5	55.5
77.5°	42.3	44.2	45.1
80°	32.0	32.9	33.9
82.5°	22.6	23.5	24.5
85°	13.2	14.1	15.0
87.5°	5.6	5.6	5.6
90°	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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Scaled Data Report





62.5°	190.0	191.9	189.1	184.4	179.7	171.2	161.8	148.6	139.2	131.7	118.5
65°	166.5	167.4	165.5	160.8	156.1	147.7	138.3	127.0	119.5	111.9	100.6

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62.5°	113.8	120.4	121.3
65°	99.7	105.3	106.3

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Scaled Data Report



(END OF REPORT)