

Classified  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P592669

Luminaire Tested: **HCC4S20D010MW-HM40525850-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592669  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S20D010MW-HM40525850-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

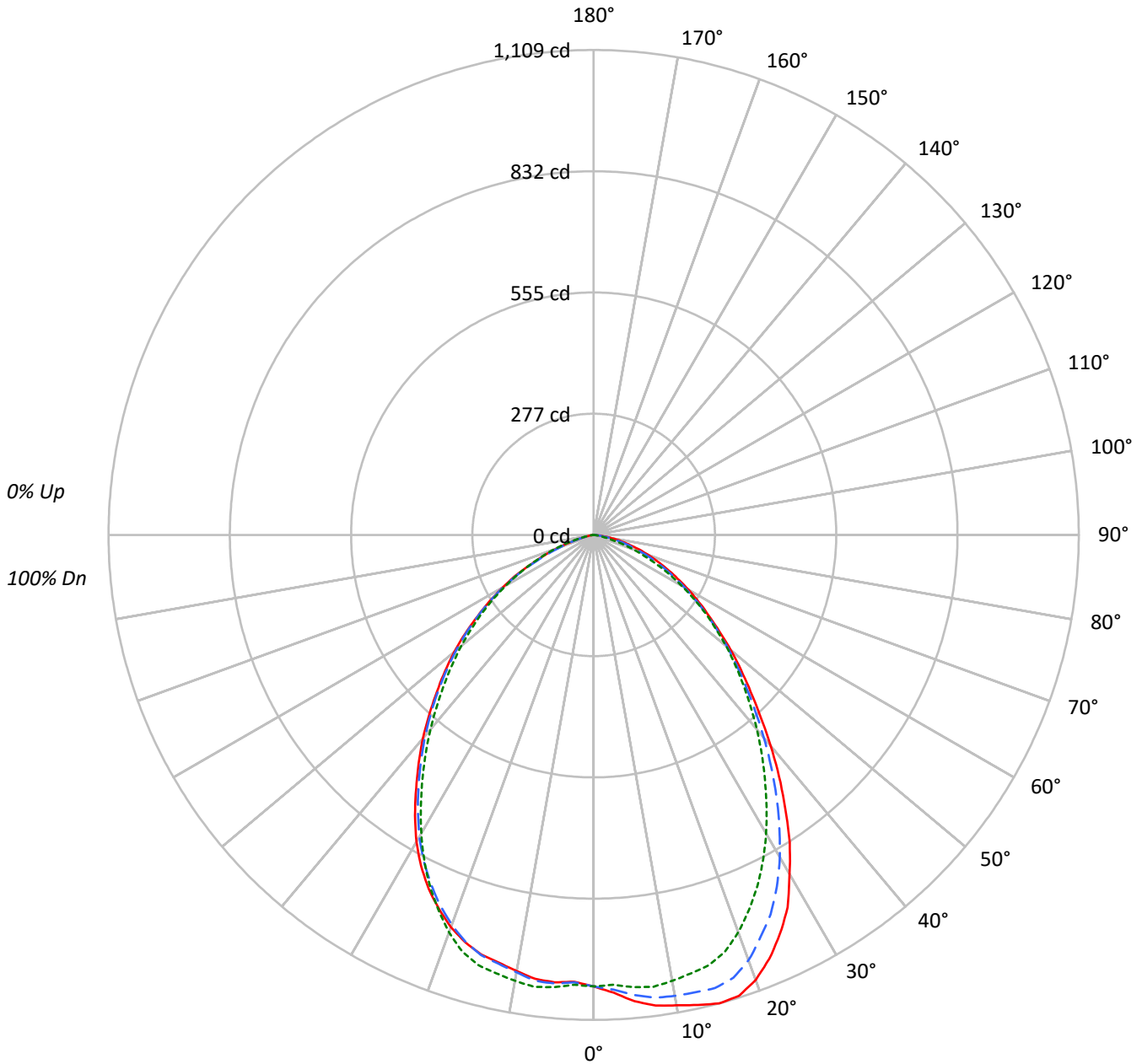
Lumens per Lamp: N/A  
Luminaire Lumens: 2151.5 lumens  
Efficiency: N/A  
Efficacy: 107.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 20  
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: 25 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	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	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76			76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67			67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58			58
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52			52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46			46
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41			41
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37			37
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34			34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31			31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	127342	127342	127342
5°	132509	128522	127147
10°	136834	129670	126864
15°	141629	130059	126854
20°	142117	126917	125263
25°	137104	120568	121521
30°	127572	112275	115452
35°	114921	102724	106518
40°	101311	93454	97721
45°	88597	84218	88352
50°	78445	75759	79789
55°	69008	66922	69611
60°	61599	57134	58861
65°	54169	46435	45589
70°	47280	34225	31195
75°	39269	20588	16632
80°	29762	7885	4972
85°	13728	1981	1981



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.6	4.6
10°-20°	290.6	13.5
20°-30°	420.9	19.6
30°-40°	444.0	20.6
40°-50°	384.3	17.9
50°-60°	284.7	13.2
60°-70°	164.1	7.6
70°-80°	57.3	2.7
80°-90°	6.0	0.3
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°	811.1	37.7
0°-40°	1255.1	58.3
0°-60°	1924.1	89.4
0°-90°	2151.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2151.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1032	1032	1032	1032	1032	
5°	1070	1056	1038	1030	1027	103
15°	1109	1073	1018	995	993	312
25°	1007	957	886	880	893	461
35°	763	728	682	698	707	477
45°	508	494	483	501	506	394
55°	321	314	311	322	324	289
65°	186	174	159	151	156	185
75°	82	70	43	35	35	89
85°	10	6	1	1	1	15
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°	1032.4	1032.4	1032.4	1032.4	1032.4	1032.4	1032.4	1032.4	1032.4
2.5°	1047.8	1045.0	1040.8	1035.3	1029.7	1025.5	1024.0	1022.7	1022.7
5°	1070.2	1064.5	1056.2	1045.0	1038.0	1033.9	1029.7	1026.9	1026.9
7.5°	1085.5	1079.9	1067.4	1052.0	1042.3	1033.9	1028.3	1024.0	1024.0
10°	1092.5	1085.5	1070.2	1050.7	1035.3	1024.0	1015.7	1012.9	1012.9
12.5°	1100.9	1092.5	1071.5	1046.4	1026.9	1012.9	1004.5	1001.8	1001.8
15°	1109.1	1099.4	1072.9	1043.7	1018.5	1001.8	994.8	993.4	993.4
17.5°	1105.0	1092.5	1061.8	1026.9	999.0	982.3	975.3	975.3	976.7
20°	1082.7	1070.2	1035.3	996.2	966.9	954.3	948.8	951.6	954.3
22.5°	1049.2	1033.9	996.2	958.5	927.8	916.7	916.7	920.8	925.1
25°	1007.4	993.4	957.2	915.3	885.9	877.6	880.4	887.3	892.9
27.5°	959.9	944.6	906.9	867.8	838.6	834.3	841.3	851.1	853.8
30°	895.7	883.2	851.1	813.5	788.3	787.0	796.7	803.7	810.6
32.5°	834.3	820.4	789.7	753.5	735.3	736.7	747.8	756.2	760.3
35°	763.2	750.6	728.3	699.0	682.2	685.1	697.6	706.0	707.4
37.5°	696.2	687.9	665.5	643.2	630.6	636.2	647.4	657.1	657.1
40°	629.2	622.2	605.5	587.4	580.4	587.4	598.5	606.9	606.9
42.5°	565.0	560.9	546.9	534.4	530.1	540.0	549.8	556.6	555.3
45°	507.9	503.6	493.9	484.1	482.8	492.5	500.9	505.0	506.5
47.5°	456.3	453.4	445.0	438.2	438.2	447.9	454.9	459.0	460.4
50°	408.8	406.0	399.0	393.4	394.8	404.7	410.2	414.4	415.8
52.5°	361.4	359.9	354.4	347.4	351.6	358.6	365.5	368.3	369.7
55°	320.9	320.9	313.9	308.3	311.2	318.1	322.3	323.7	323.7
57.5°	284.6	283.2	274.8	269.3	270.7	277.7	280.4	281.8	281.8
60°	249.7	248.3	240.0	231.6	231.6	235.8	237.2	238.6	238.6
62.5°	216.2	214.8	205.1	198.1	195.3	194.0	194.0	196.7	202.3
65°	185.6	184.2	174.5	163.2	159.1	154.8	150.7	153.5	156.2
67.5°	157.7	154.8	145.1	135.3	125.6	118.6	111.6	115.8	121.4
70°	131.1	128.3	117.2	106.0	94.9	83.7	78.1	83.7	86.5
72.5°	106.0	103.2	92.1	81.0	67.0	55.9	54.4	55.9	57.2
75°	82.4	81.0	69.7	57.2	43.2	34.9	34.9	34.9	34.9
77.5°	61.4	58.6	47.5	36.2	25.1	19.5	18.1	18.1	18.1
80°	41.9	39.1	29.2	20.9	11.1	8.4	8.4	7.0	7.0
82.5°	23.7	22.4	15.4	8.4	4.1	2.8	2.8	2.8	2.8
85°	9.7	8.4	5.6	2.8	1.4	1.4	1.4	1.4	1.4
87.5°	1.4	1.4	1.4	0.0	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

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Scaled Data Report



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

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