

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: P580018

Luminaire Tested: **HCC4S20D010BZ-HM40525835-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580018  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S20D010BZ-HM40525835-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

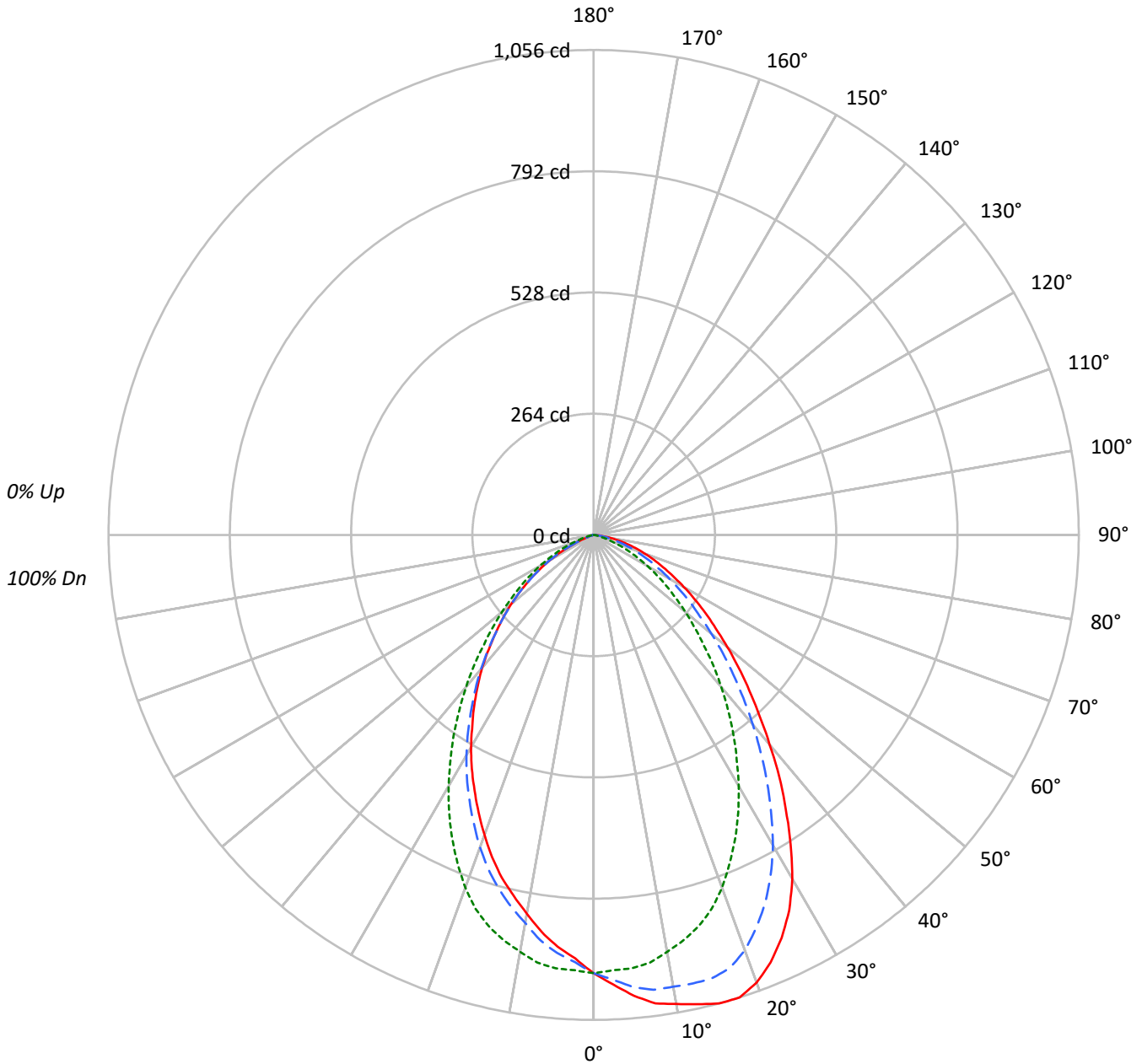
Lumens per Lamp: N/A  
Luminaire Lumens: 1648.4 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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								
1	111	108	104	101	109	105	102	100	101	99	97	97	95	94	94	92	91	89								
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	85	83	80	78								
3	96	87	80	75	94	86	79	74	83	78	73	80	76	72	78	74	71	69								
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61								
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55								
6	77	66	58	52	75	65	57	52	63	57	52	61	56	51	60	55	51	49								
7	72	60	53	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44								
8	68	56	48	43	66	55	48	43	54	47	42	53	47	42	51	46	42	40								
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	43	39	37								
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	36	34								

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

	0°	90°	180°
0°	117709	117709	117709
5°	124708	117316	111423
10°	129895	115441	104896
15°	134848	112680	98633
20°	136131	107267	91227
25°	131715	99201	83495
30°	123157	89900	75985
35°	109756	79911	68272
40°	95950	69495	60768
45°	83590	58960	52558
50°	72938	50007	45056
55°	63933	41461	36472
60°	55900	33476	26791
65°	48741	24983	15060
70°	42591	16157	4869
75°	34933	8435	1334
80°	26069	3836	994
85°	15426	1981	1981



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.1	5.5
10°-20°	252.1	15.3
20°-30°	348.5	21.1
30°-40°	350.4	21.3
40°-50°	282.8	17.2
50°-60°	191.2	11.6
60°-70°	97.3	5.9
70°-80°	31.2	1.9
80°-90°	4.8	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°	690.6	41.9
0°-40°	1041.1	63.2
0°-60°	1515.1	91.9
0°-90°	1648.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1648.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	954	954	954	954	954	
5°	1007	988	948	914	900	97
15°	1056	999	882	798	772	297
25°	968	884	729	639	614	443
35°	729	658	531	464	453	455
45°	479	429	338	301	301	371
55°	297	257	193	168	170	267
65°	167	136	86	56	52	167
75°	73	52	18	4	3	79
85°	11	5	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°	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3	954.3
2.5°	980.1	974.6	969.2	959.7	948.8	938.0	931.2	925.7	923.1
5°	1007.2	1000.4	988.3	967.8	947.5	928.5	913.6	904.1	899.9
7.5°	1029.0	1019.5	999.0	970.6	939.4	909.5	890.5	876.9	871.5
10°	1037.1	1026.2	999.0	961.1	921.7	885.0	858.0	844.3	837.5
12.5°	1046.6	1034.4	1000.4	952.9	904.1	860.6	829.4	811.7	805.0
15°	1056.0	1039.8	999.0	940.7	882.4	832.1	798.2	780.5	772.4
17.5°	1056.0	1037.1	988.3	920.4	853.8	800.8	762.9	742.6	735.7
20°	1037.1	1015.3	962.4	887.8	817.2	760.1	723.5	703.1	695.0
22.5°	1007.2	982.7	925.7	848.4	773.8	718.1	681.4	662.4	654.2
25°	967.8	943.4	883.6	803.6	728.9	673.3	639.3	621.7	613.5
27.5°	921.7	894.5	834.8	754.7	681.4	628.4	597.2	581.0	574.2
30°	864.7	838.9	780.5	701.8	631.2	582.3	553.9	538.9	533.5
32.5°	798.2	776.4	719.4	646.1	579.6	534.8	509.0	496.9	491.4
35°	728.9	708.6	658.4	590.5	530.7	488.7	464.2	456.0	453.4
37.5°	663.8	646.1	597.2	534.8	480.5	443.9	422.2	416.7	414.1
40°	595.9	583.7	538.9	481.9	431.6	399.0	381.5	377.4	377.4
42.5°	534.8	521.3	481.9	430.4	385.5	352.9	340.8	336.6	338.0
45°	479.2	465.6	429.0	381.5	338.0	310.8	301.3	301.3	301.3
47.5°	427.6	415.3	381.5	332.6	297.3	275.5	266.1	266.1	267.4
50°	380.1	372.0	333.9	291.8	260.6	240.3	233.5	232.2	234.8
52.5°	335.3	325.7	291.8	253.8	224.0	207.7	201.0	199.6	201.0
55°	297.3	286.4	256.6	219.9	192.8	176.5	168.4	167.0	169.6
57.5°	260.6	252.5	221.3	188.7	162.9	146.6	139.8	137.1	138.4
60°	226.6	218.5	190.1	158.9	135.7	119.4	110.0	107.2	108.6
62.5°	195.4	188.7	161.5	131.7	108.6	93.7	84.2	77.4	80.1
65°	167.0	160.1	135.7	105.9	85.6	69.3	55.6	50.2	51.6
67.5°	142.6	134.4	111.3	84.2	63.8	46.1	31.2	28.6	28.6
70°	118.1	110.0	89.6	65.1	44.8	24.4	13.5	13.5	13.5
72.5°	95.0	88.2	69.3	48.9	28.6	10.9	5.4	5.4	5.4
75°	73.3	67.9	51.6	34.0	17.7	5.4	4.1	2.8	2.8
77.5°	54.3	48.9	36.7	23.1	10.9	2.8	2.8	2.8	2.8
80°	36.7	32.6	24.4	13.5	5.4	1.4	1.4	1.4	1.4
82.5°	21.7	19.0	13.5	6.8	2.8	1.4	1.4	1.4	1.4
85°	10.9	8.1	5.4	2.8	1.4	1.4	1.4	1.4	1.4
87.5°	2.8	1.4	1.4	1.4	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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