

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: P592671

Luminaire Tested: **HCC4S20D010BZ-HM40525850-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592671  
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-HM40525850-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

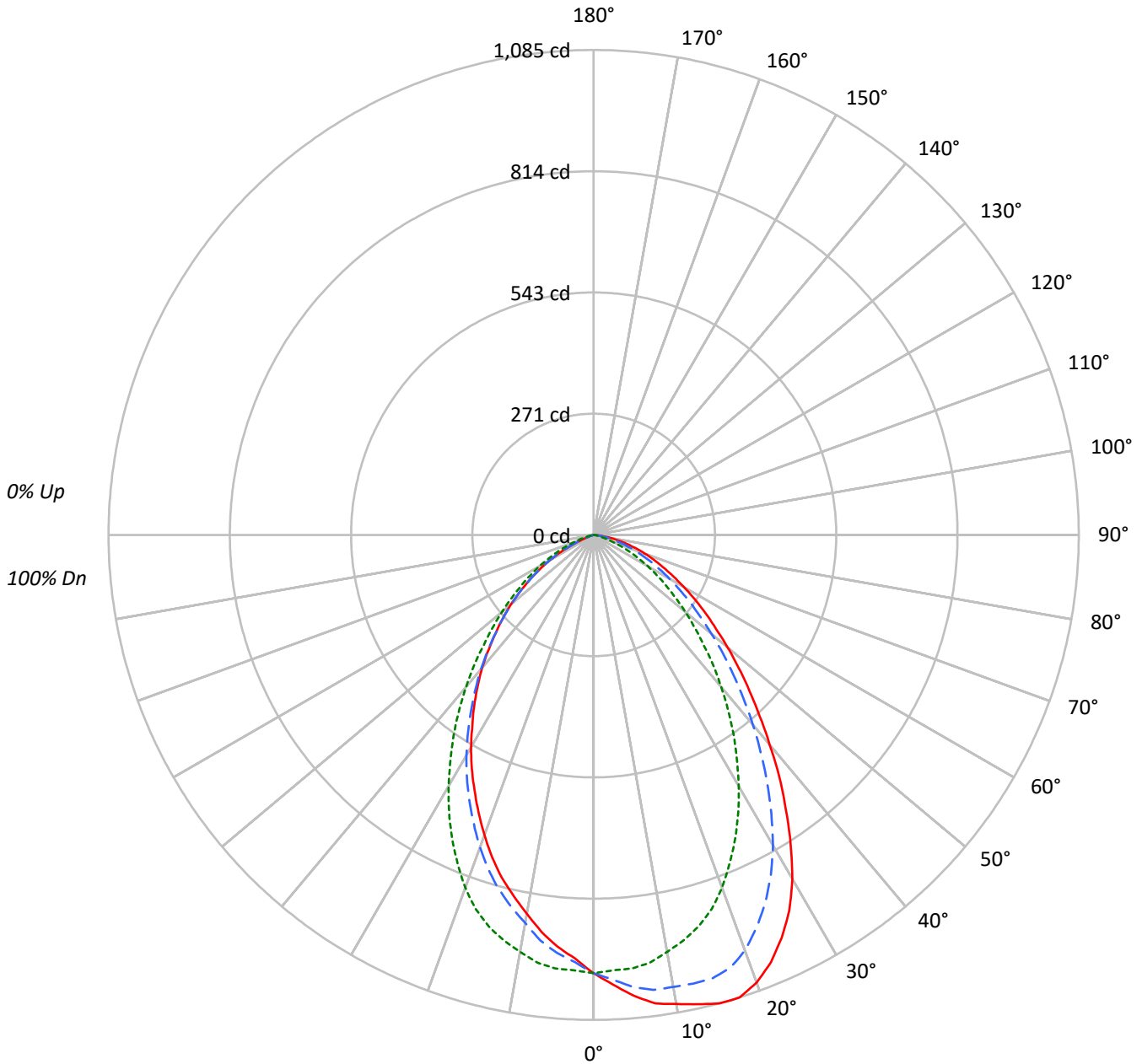
Lumens per Lamp: N/A  
Luminaire Lumens: 1693.8 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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

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

	0°	90°	180°
0°	120965	120965	120965
5°	128163	120560	114506
10°	133477	118635	107801
15°	138589	115783	101353
20°	139886	110220	93747
25°	135362	101950	85809
30°	126561	92378	78079
35°	112797	82125	70154
40°	98606	71411	62442
45°	85893	60582	54023
50°	74953	51389	46303
55°	65675	42601	37483
60°	57479	34413	27531
65°	50083	25655	15469
70°	43782	16589	5049
75°	35933	8626	1334
80°	26708	3978	994
85°	15709	1981	1981



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.6	5.5
10°-20°	259.0	15.3
20°-30°	358.1	21.1
30°-40°	360.1	21.3
40°-50°	290.6	17.2
50°-60°	196.5	11.6
60°-70°	100.0	5.9
70°-80°	32.0	1.9
80°-90°	4.9	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°	709.7	41.9
0°-40°	1069.8	63.2
0°-60°	1556.9	91.9
0°-90°	1693.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1693.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	981	981	981	981	981	
5°	1035	1016	974	939	925	100
15°	1085	1027	907	820	794	306
25°	995	908	749	657	630	455
35°	749	676	545	477	466	468
45°	492	441	347	310	310	382
55°	305	264	198	173	174	274
65°	172	140	88	57	53	172
75°	75	53	18	4	3	81
85°	11	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°	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7
2.5°	1007.2	1001.6	995.9	986.2	975.1	963.9	956.9	951.3	948.6
5°	1035.1	1028.1	1015.6	994.6	973.7	954.1	938.8	929.1	924.8
7.5°	1057.3	1047.6	1026.7	997.4	965.3	934.6	915.1	901.1	895.6
10°	1065.7	1054.6	1026.7	987.6	947.2	909.5	881.6	867.6	860.7
12.5°	1075.5	1062.9	1028.1	979.2	929.1	884.3	852.3	834.2	827.2
15°	1085.3	1068.5	1026.7	966.7	906.7	855.1	820.2	802.1	793.7
17.5°	1085.3	1065.7	1015.6	945.8	877.5	823.0	784.0	763.0	756.1
20°	1065.7	1043.4	989.1	912.3	839.7	781.1	743.5	722.6	714.2
22.5°	1035.1	1009.9	951.3	871.8	795.1	737.9	700.2	680.7	672.4
25°	994.6	969.4	908.1	825.8	749.1	691.9	657.0	638.9	630.5
27.5°	947.2	919.2	857.8	775.6	700.2	645.9	613.8	597.0	590.0
30°	888.6	862.1	802.1	721.2	648.6	598.4	569.1	553.8	548.2
32.5°	820.2	797.9	739.4	664.0	595.6	549.6	523.1	510.5	504.9
35°	749.1	728.1	676.5	606.8	545.4	502.2	477.0	468.7	465.9
37.5°	682.1	664.0	613.8	549.6	493.8	456.2	433.8	428.3	425.4
40°	612.4	599.8	553.8	495.2	443.5	410.1	391.9	387.8	387.8
42.5°	549.6	535.6	495.2	442.2	396.2	362.7	350.2	345.9	347.3
45°	492.4	478.4	440.8	391.9	347.3	319.4	309.7	309.7	309.7
47.5°	439.4	426.8	391.9	341.8	305.4	283.2	273.4	273.4	274.8
50°	390.6	382.2	343.2	299.9	267.8	246.9	240.0	238.6	241.3
52.5°	344.6	334.8	299.9	260.8	230.2	213.5	206.5	205.1	206.5
55°	305.4	294.3	263.7	226.0	198.1	181.3	173.0	171.6	174.3
57.5°	267.8	259.5	227.3	193.8	167.3	150.6	143.7	140.9	142.2
60°	233.0	224.6	195.3	163.2	139.5	122.7	113.0	110.2	111.6
62.5°	200.8	193.8	166.0	135.3	111.6	96.2	86.5	79.5	82.4
65°	171.6	164.6	139.5	108.9	87.9	71.1	57.2	51.6	53.0
67.5°	146.5	138.1	114.4	86.5	65.6	47.4	32.1	29.2	29.2
70°	121.4	113.0	92.1	67.0	46.0	25.1	14.0	14.0	14.0
72.5°	97.6	90.7	71.1	50.2	29.2	11.1	5.6	5.6	5.6
75°	75.4	69.7	53.0	34.9	18.1	5.6	4.1	2.8	2.8
77.5°	55.7	50.2	37.6	23.7	11.1	2.8	2.8	2.8	2.8
80°	37.6	33.5	25.1	14.0	5.6	1.4	1.4	1.4	1.4
82.5°	22.4	19.5	14.0	7.0	2.8	1.4	1.4	1.4	1.4
85°	11.1	8.4	5.6	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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