

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: P592688

Luminaire Tested: **HCC4W20D010BZ-HM40525950-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592688  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4W20D010BZ-HM40525950-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

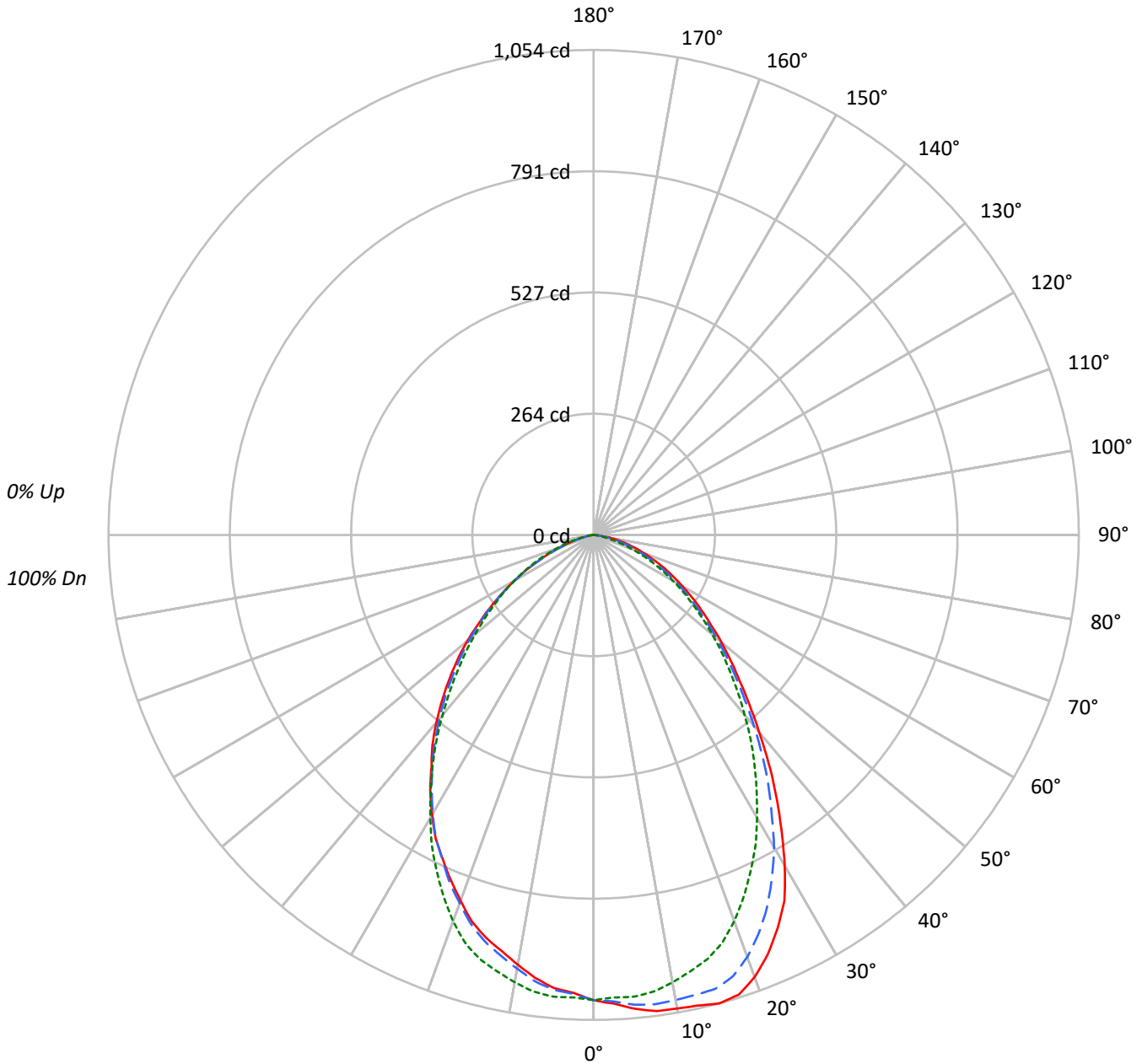
Lumens per Lamp: N/A  
Luminaire Lumens: 1927.5 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67			67
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	124727	124727	124727
5°	128002	124733	122405
10°	130897	123658	118798
15°	134592	121899	115655
20°	134228	117243	110982
25°	128571	109762	105652
30°	118257	101095	100012
35°	104049	91747	92485
40°	90008	82118	85564
45°	78235	72967	77345
50°	69426	64360	68697
55°	61589	56450	58901
60°	54839	48944	48944
65°	48770	40715	38117
70°	42159	30835	27192
75°	35314	20350	16775
80°	26779	9802	8950
85°	14294	3538	3538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.8	5.0
10°-20°	271.5	14.1
20°-30°	382.9	19.9
30°-40°	395.5	20.5
40°-50°	335.3	17.4
50°-60°	244.0	12.7
60°-70°	142.5	7.4
70°-80°	53.0	2.7
80°-90°	7.0	0.4
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°	750.2	38.9
0°-40°	1145.7	59.4
0°-60°	1725.0	89.5
0°-90°	1927.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1927.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1011	1011	1011	1011	1011	
5°	1034	1025	1007	992	989	99
15°	1054	1021	955	914	906	296
25°	945	892	806	778	776	432
35°	691	661	609	610	614	432
45°	448	436	418	433	443	349
55°	286	273	262	271	274	258
65°	167	153	140	131	131	166
75°	74	62	43	34	35	80
85°	10	6	2	2	2	14
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°	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2	1011.2
2.5°	1020.0	1017.5	1015.0	1011.2	1006.1	1002.5	998.7	996.2	996.2
5°	1033.8	1030.1	1025.1	1016.2	1007.4	1000.0	992.4	988.6	988.6
7.5°	1043.9	1038.8	1028.9	1016.2	1001.2	989.9	978.6	973.6	971.1
10°	1045.1	1040.1	1026.3	1007.4	987.3	969.8	957.2	949.7	948.5
12.5°	1047.7	1041.4	1023.8	997.4	971.1	949.7	935.8	928.3	925.9
15°	1054.0	1045.1	1021.3	987.3	954.6	929.5	914.5	908.2	905.7
17.5°	1047.7	1035.1	1006.1	966.0	929.5	901.9	886.9	880.6	880.6
20°	1022.6	1009.9	976.1	932.1	893.2	866.8	851.6	848.0	845.5
22.5°	987.3	973.6	937.1	890.6	851.6	827.8	817.8	812.8	811.5
25°	944.7	930.8	891.9	844.2	806.5	786.4	777.6	777.6	776.3
27.5°	897.0	879.3	839.1	797.6	761.3	746.1	742.5	742.5	743.7
30°	830.3	817.8	783.9	743.7	709.8	699.7	699.7	702.2	702.2
32.5°	758.7	749.9	719.7	684.6	658.3	652.0	654.5	659.5	660.8
35°	691.0	680.9	660.8	629.4	609.3	606.8	610.5	614.2	614.2
37.5°	624.3	614.2	600.5	575.3	560.3	561.5	566.5	571.6	575.3
40°	559.0	551.5	541.4	521.3	510.0	515.0	521.3	526.4	531.4
42.5°	501.2	493.7	486.1	471.1	463.5	469.8	477.4	482.4	487.4
45°	448.5	443.4	435.9	423.4	418.3	424.6	433.3	438.4	443.4
47.5°	403.3	400.8	390.7	379.3	376.9	383.1	390.7	397.0	400.8
50°	361.8	358.0	349.3	337.9	335.4	345.5	350.5	354.2	358.0
52.5°	321.6	317.8	307.7	297.8	297.8	305.2	309.0	310.3	314.0
55°	286.4	282.6	272.6	265.1	262.5	268.9	271.4	271.4	273.9
57.5°	253.7	249.9	240.0	231.1	229.9	233.6	233.6	233.6	234.9
60°	222.3	218.6	208.5	201.0	198.4	199.7	198.4	197.2	198.4
62.5°	193.5	189.7	179.6	170.8	168.4	168.4	164.6	163.3	164.6
65°	167.1	160.8	153.2	144.4	139.5	135.7	130.6	130.6	130.6
67.5°	140.7	135.7	126.9	118.0	111.8	105.5	98.0	100.5	101.7
70°	116.9	113.1	103.0	94.2	85.5	77.9	71.6	74.1	75.4
72.5°	95.4	90.5	81.7	71.6	64.1	54.0	50.2	52.8	52.8
75°	74.1	69.0	61.6	51.5	42.7	34.0	34.0	35.2	35.2
77.5°	55.3	50.2	42.7	34.0	26.4	20.1	21.3	21.3	21.3
80°	37.7	34.0	27.6	20.1	13.8	11.4	11.4	11.4	12.6
82.5°	21.3	18.8	15.0	10.1	6.3	6.3	6.3	6.3	6.3
85°	10.1	7.6	6.3	3.8	2.5	2.5	2.5	2.5	2.5
87.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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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