

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: P580110

Luminaire Tested: **HCC4W20D010MW-HM40525940-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580110  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4W20D010MW-HM40525940-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

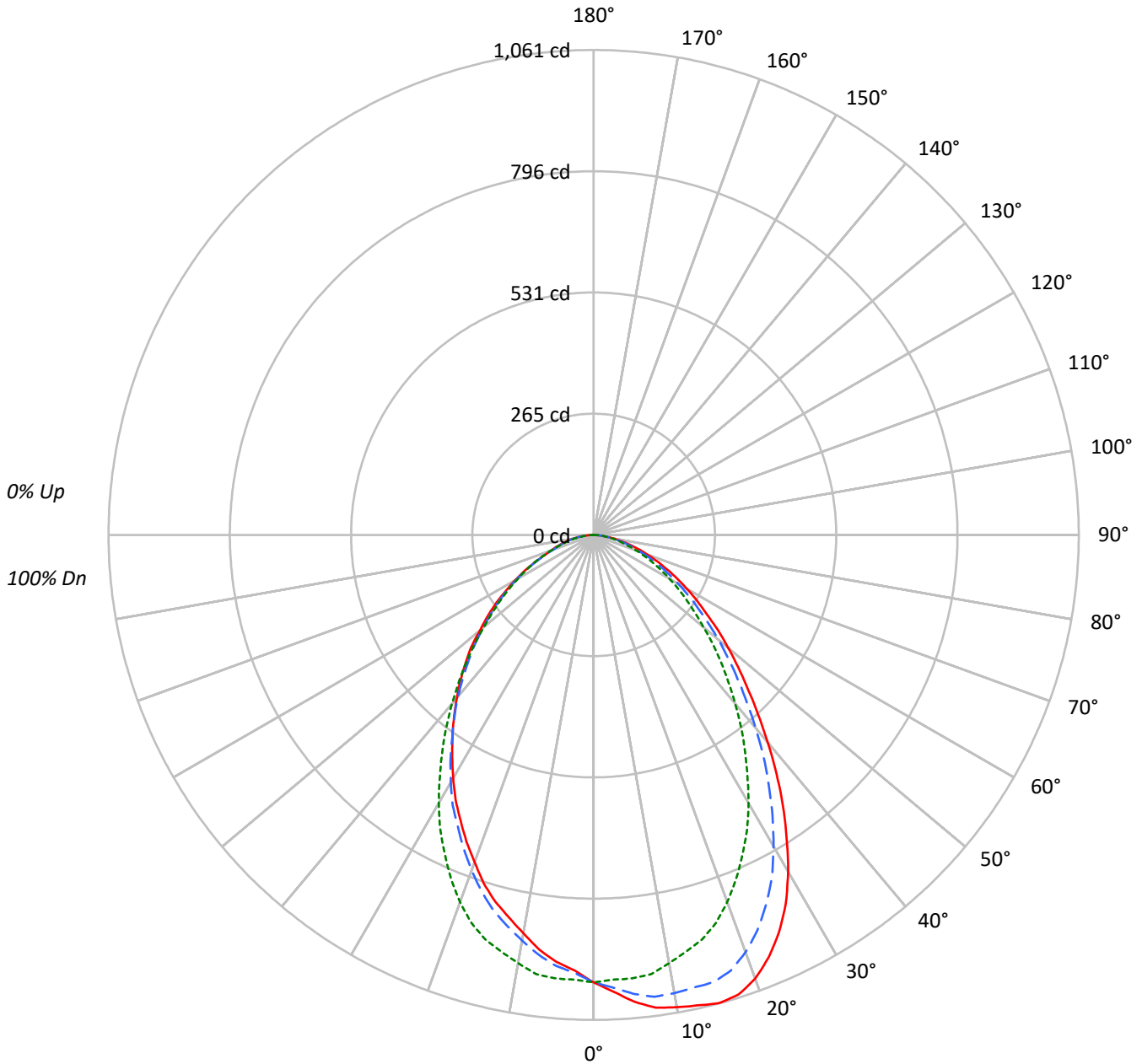
Lumens per Lamp: N/A  
Luminaire Lumens: 1898.5 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	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	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58								
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51								
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46								
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41								
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34								
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31								

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

	0°	90°	180°
0°	120755	120755	120755
5°	126962	120585	116066
10°	131423	119149	110807
15°	135435	116983	106078
20°	135593	112163	99956
25°	130503	104835	93730
30°	121163	96466	87536
35°	108611	86853	80980
40°	95306	77497	74873
45°	83294	68606	69042
50°	73552	60043	62230
55°	64837	53224	55934
60°	57972	47118	48968
65°	51338	41444	41444
70°	44863	35379	35379
75°	38316	29976	33551
80°	30402	26779	30402
85°	19672	23068	28446



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.8	4.9
10°-20°	261.2	13.8
20°-30°	365.9	19.3
30°-40°	377.0	19.9
40°-50°	321.0	16.9
50°-60°	237.8	12.5
60°-70°	149.3	7.9
70°-80°	74.2	3.9
80°-90°	19.5	1.0
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°	719.9	37.9
0°-40°	1096.9	57.8
0°-60°	1655.7	87.2
0°-90°	1898.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1898.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	979	979	979	979	979	
5°	1025	1008	974	946	937	99
15°	1061	1013	916	850	831	298
25°	959	892	770	704	689	439
35°	721	667	577	539	538	450
45°	478	445	393	386	396	371
55°	302	278	248	253	260	273
65°	176	158	142	140	142	176
75°	80	72	63	68	70	86
85°	14	14	16	19	20	18
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°	979.0	979.0	979.0	979.0	979.0	979.0	979.0	979.0	979.0
2.5°	1000.3	996.5	991.5	982.7	973.9	966.3	958.9	955.1	953.8
5°	1025.4	1018.0	1007.9	991.5	973.9	958.9	946.3	940.0	937.4
7.5°	1043.1	1035.5	1019.1	994.0	968.9	946.3	926.2	917.4	914.8
10°	1049.3	1040.6	1018.0	984.0	951.3	923.7	901.1	889.7	884.7
12.5°	1054.3	1043.1	1014.2	973.9	933.7	899.8	875.8	860.8	857.0
15°	1060.6	1048.0	1012.9	963.8	916.1	875.8	849.5	835.7	830.7
17.5°	1054.3	1040.6	999.0	943.8	889.7	845.8	816.9	804.3	799.2
20°	1033.0	1018.0	971.4	912.3	854.5	809.3	780.4	767.8	761.5
22.5°	1000.3	984.0	936.2	873.4	814.4	770.3	742.7	730.2	726.4
25°	958.9	942.5	892.3	828.1	770.3	727.7	703.7	692.4	688.7
27.5°	909.8	893.5	844.5	781.7	726.4	686.1	667.3	656.0	653.4
30°	850.7	834.4	786.7	728.9	677.3	639.7	624.5	615.8	614.6
32.5°	785.5	771.6	727.7	674.8	625.8	594.4	583.1	576.8	575.6
35°	721.3	706.2	667.3	619.5	576.8	549.2	539.1	537.8	537.8
37.5°	656.0	640.9	609.5	565.5	529.1	503.9	500.2	501.5	501.5
40°	591.9	578.1	550.4	514.0	481.3	462.5	461.2	463.7	465.0
42.5°	531.5	520.3	495.2	463.7	436.1	420.9	422.2	427.3	431.0
45°	477.5	467.5	444.8	417.2	393.3	382.1	385.9	392.0	395.8
47.5°	428.5	419.7	398.4	373.2	353.2	345.6	350.6	358.2	363.1
50°	383.3	375.8	355.7	329.3	312.9	307.9	314.2	321.7	324.3
52.5°	343.1	335.5	314.2	291.6	279.0	276.4	282.7	289.0	292.8
55°	301.5	295.4	277.7	257.6	247.5	246.3	252.6	257.6	260.1
57.5°	267.7	261.4	245.0	227.5	218.6	217.4	223.7	227.5	228.7
60°	235.0	228.7	213.7	197.3	191.0	191.0	194.8	197.3	198.5
62.5°	204.9	198.5	184.8	170.9	165.9	165.9	165.9	167.1	170.9
65°	175.9	170.9	158.3	145.8	142.0	139.5	139.5	139.5	142.0
67.5°	149.6	144.5	134.4	123.2	119.4	115.6	114.4	116.9	116.9
70°	124.4	120.7	110.6	101.7	98.1	94.3	93.0	98.1	98.1
72.5°	101.7	98.1	91.8	82.9	79.1	77.9	80.4	82.9	84.2
75°	80.4	76.6	71.7	66.6	62.9	64.1	67.9	69.2	70.4
77.5°	60.3	59.1	54.0	50.2	50.2	51.5	54.0	56.5	57.8
80°	42.8	41.5	39.0	36.5	37.7	40.3	41.5	43.9	42.8
82.5°	26.4	26.4	25.1	25.1	26.4	28.9	30.2	31.4	32.7
85°	13.9	13.9	13.9	15.0	16.3	17.5	18.8	20.1	20.1
87.5°	3.8	5.0	5.0	6.3	7.6	7.6	8.8	8.8	8.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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