

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: P580053

Luminaire Tested: **HCC4S20D010BZ-HM40525927-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580053  
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: HCC4S20D010BZ-HM40525927-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

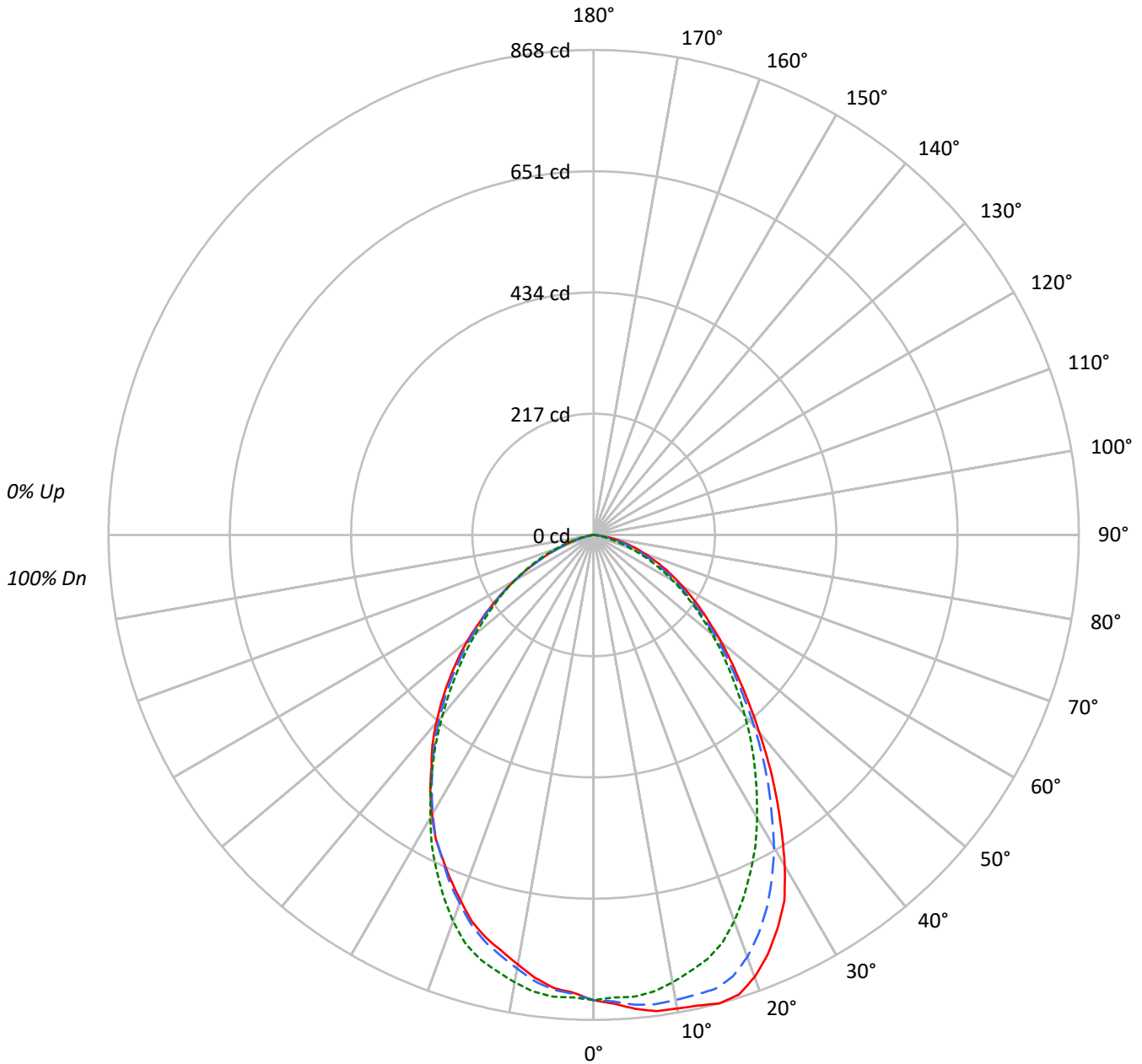
Lumens per Lamp: N/A  
Luminaire Lumens: 1587.2 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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								
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77								
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67								
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47								
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

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

	0°	90°	180°
0°	102710	102710	102710
5°	105405	102718	100799
10°	107801	101840	97819
15°	110828	100395	95249
20°	110522	96543	91384
25°	105870	90382	87007
30°	97378	83249	82366
35°	85663	75545	76162
40°	74116	67627	70461
45°	64420	60076	63704
50°	57165	53000	56570
55°	50708	46493	48493
60°	45169	40309	40309
65°	40131	33506	31404
70°	34693	25353	22396
75°	29071	16775	13821
80°	22091	8098	7316
85°	11746	2972	2972



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.9	5.0
10°-20°	223.6	14.1
20°-30°	315.3	19.9
30°-40°	325.7	20.5
40°-50°	276.1	17.4
50°-60°	200.9	12.7
60°-70°	117.4	7.4
70°-80°	43.6	2.7
80°-90°	5.7	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°	617.7	38.9
0°-40°	943.5	59.4
0°-60°	1420.5	89.5
0°-90°	1587.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1587.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	833	833	833	833	833	
5°	851	844	830	817	814	82
15°	868	841	786	753	746	244
25°	778	734	664	640	639	356
35°	569	544	502	503	506	355
45°	369	359	344	357	365	287
55°	236	224	216	223	226	212
65°	138	126	115	108	108	136
75°	61	51	35	28	29	66
85°	8	5	2	2	2	12
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°	832.7	832.7	832.7	832.7	832.7	832.7	832.7	832.7	832.7
2.5°	839.9	837.9	835.8	832.7	828.6	825.5	822.4	820.3	820.3
5°	851.3	848.2	844.1	836.9	829.6	823.4	817.2	814.1	814.1
7.5°	859.7	855.5	847.2	836.9	824.5	815.2	805.9	801.8	799.7
10°	860.7	856.6	845.1	829.6	813.1	798.7	788.2	782.0	781.0
12.5°	862.8	857.6	843.0	821.4	799.7	782.0	770.7	764.5	762.4
15°	867.9	860.7	841.0	813.1	786.2	765.5	753.1	748.0	745.9
17.5°	862.8	852.3	828.6	795.4	765.5	742.7	730.3	725.1	725.1
20°	842.0	831.7	803.8	767.6	735.5	713.8	701.4	698.3	696.2
22.5°	813.1	801.8	771.7	733.4	701.4	681.7	673.4	669.3	668.2
25°	777.9	766.5	734.4	695.2	664.1	647.6	640.4	640.4	639.3
27.5°	738.6	724.1	691.1	656.9	626.8	614.4	611.4	611.4	612.4
30°	683.7	673.4	645.5	612.4	584.5	576.1	576.1	578.3	578.3
32.5°	624.8	617.5	592.8	563.8	542.1	536.9	539.0	543.1	544.1
35°	568.9	560.7	544.1	518.2	501.7	499.6	502.7	505.8	505.8
37.5°	514.1	505.8	494.5	473.8	461.3	462.4	466.5	470.7	473.8
40°	460.3	454.1	445.8	429.3	420.0	424.2	429.3	433.5	437.6
42.5°	412.7	406.5	400.3	387.9	381.7	386.9	393.1	397.2	401.3
45°	369.3	365.2	359.0	348.6	344.4	349.6	356.8	361.1	365.2
47.5°	332.1	330.0	321.7	312.4	310.4	315.5	321.7	326.9	330.0
50°	297.9	294.8	287.6	278.3	276.2	284.5	288.6	291.7	294.8
52.5°	264.8	261.7	253.5	245.1	245.1	251.4	254.5	255.6	258.6
55°	235.8	232.7	224.5	218.3	216.2	221.4	223.4	223.4	225.5
57.5°	209.0	205.9	197.6	190.3	189.3	192.4	192.4	192.4	193.5
60°	183.1	180.0	171.7	165.5	163.4	164.5	163.4	162.4	163.4
62.5°	159.3	156.2	148.0	140.7	138.7	138.7	135.5	134.4	135.5
65°	137.5	132.4	126.2	118.9	114.8	111.7	107.6	107.6	107.6
67.5°	115.8	111.7	104.5	97.3	92.1	86.9	80.6	82.8	83.8
70°	96.2	93.1	84.9	77.5	70.3	64.1	59.0	61.0	62.1
72.5°	78.6	74.4	67.2	59.0	52.8	44.5	41.4	43.5	43.5
75°	61.0	56.9	50.7	42.4	35.2	28.0	28.0	29.0	29.0
77.5°	45.5	41.4	35.2	28.0	21.7	16.5	17.5	17.5	17.5
80°	31.1	28.0	22.7	16.5	11.4	9.3	9.3	9.3	10.3
82.5°	17.5	15.5	12.4	8.3	5.2	5.2	5.2	5.2	5.2
85°	8.3	6.2	5.2	3.1	2.1	2.1	2.1	2.1	2.1
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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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