

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: HALO

Report Number: P626443

Luminaire Tested: HLBC4LS9FSD2W1EMWR-5000K-900lm

Issue Date: 11/17/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P626443  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2209627A001)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/17/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: HLBC4LS9FSD2W1EMWR-5000K-900lm  
Description: 4IN CANLESS LED DOWNLIGHT WITH SELECTABLE CCT AND SELECTABLE LUMEN OUTPUT  
Light Source: (1) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

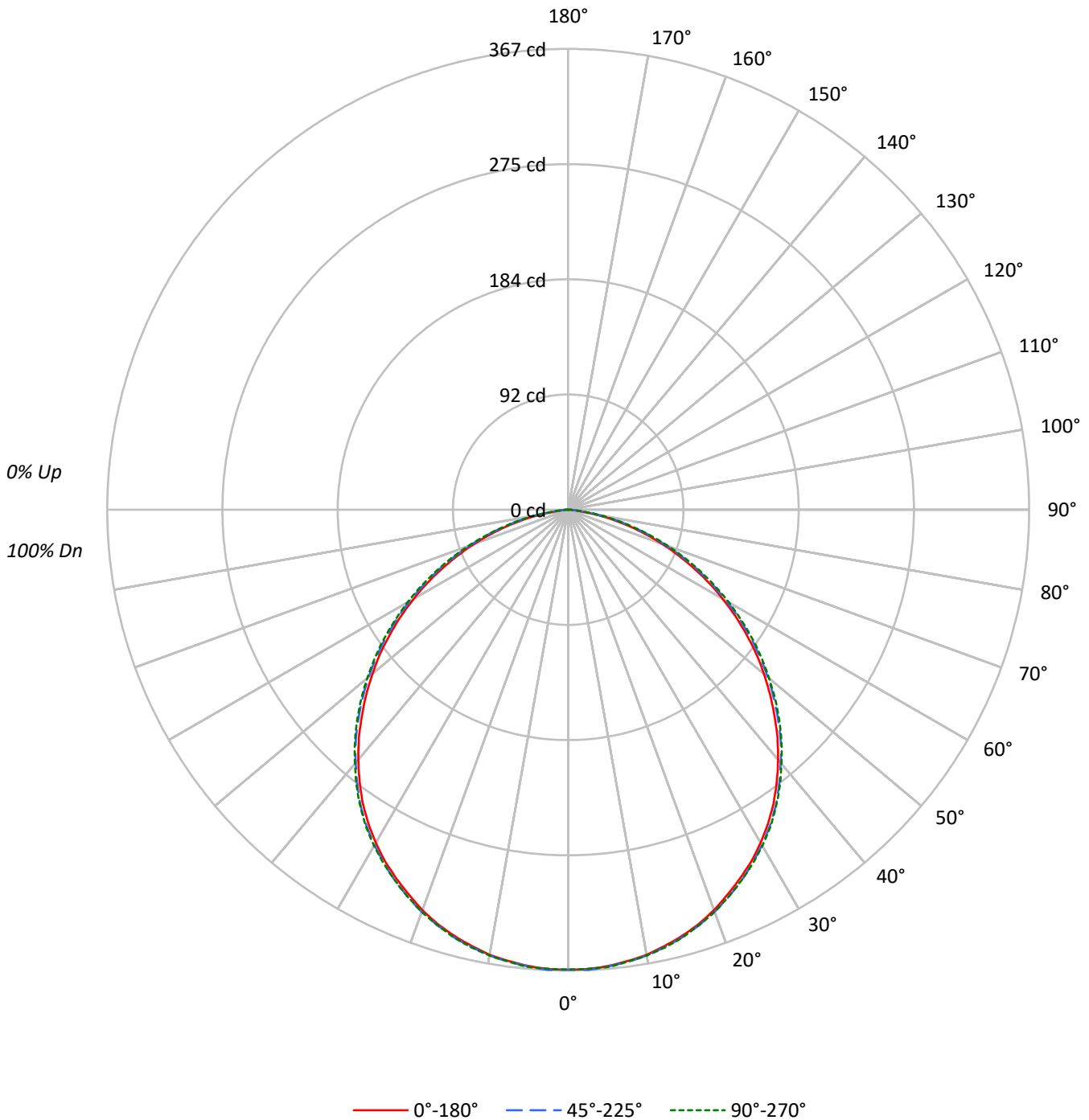
Lumens per Lamp: N/A  
Luminaire Lumens: 980.0 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.25 / 1.35  
Luminous Opening: Circular (Dia: 0.33m x H: 0m)  
CIE Type: Direct

Input Watts (W): 13.1  
Input Voltage (V): 120  
Input Current (Ain): 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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93		95	92	90		91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77		83	79	75		80	77	74	71
3	91	81	73	67	89	79	72	66	76	70	65		74	68	64		71	67	63	61
4	84	72	63	57	81	71	62	56	68	61	56		66	60	55		64	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48		59	53	48		57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	42		54	47	42		52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27		38	32	27		37	31	27	25

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

	0°	45°	90°
0°	4206	4206	4206
5°	4205	4209	4214
10°	4196	4204	4203
15°	4175	4188	4190
20°	4147	4165	4164
25°	4104	4133	4130
30°	4062	4090	4098
35°	3996	4037	4044
40°	3896	3945	3960
45°	3772	3835	3860
50°	3633	3705	3730
55°	3467	3543	3579
60°	3263	3344	3392
65°	3002	3103	3152
70°	2659	2780	2844
75°	2192	2356	2413
80°	1475	1713	1785
85°	632	711	883

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.7	3.5
10°-20°	99.3	10.1
20°-30°	149.9	15.3
30°-40°	179.4	18.3
40°-50°	181.6	18.5
50°-60°	157.6	16.1
60°-70°	112.5	11.5
70°-80°	55.7	5.7
80°-90°	9.3	0.9
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°	283.9	29.0
0°-40°	463.3	47.3
0°-60°	802.5	81.9
0°-90°	980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	980.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	366	366	366	366	366	
5°	365	365	365	365	366	35
15°	351	352	352	351	352	99
25°	324	325	326	325	326	149
35°	285	286	288	287	288	178
45°	232	235	236	236	238	179
55°	173	175	177	178	179	155
65°	110	112	114	115	116	109
75°	49	52	53	53	54	53
85°	5	5	5	6	7	8
90°	0	0	0	0	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	366.3	366.3	366.3	366.3	366.3
2.5°	366.2	365.6	366.9	366.2	365.9
5°	364.8	364.7	365.2	364.7	365.6
7.5°	362.6	362.6	363.1	363.8	363.1
10°	359.9	359.6	360.6	360.3	360.5
12.5°	355.8	355.8	356.7	356.1	357.0
15°	351.2	351.5	352.3	351.4	352.5
17.5°	345.9	345.7	346.9	346.7	346.8
20°	339.4	339.7	340.9	340.9	340.8
22.5°	331.6	332.9	333.7	333.0	333.6
25°	323.9	324.9	326.2	325.3	326.0
27.5°	315.7	316.6	317.5	317.2	317.9
30°	306.4	307.5	308.5	307.9	309.1
32.5°	296.1	297.4	298.7	298.4	299.5
35°	285.1	286.5	288.0	287.2	288.5
37.5°	272.8	274.5	275.9	275.9	276.8
40°	259.9	261.6	263.2	263.4	264.2
42.5°	246.6	248.4	250.5	250.1	251.4
45°	232.3	234.6	236.2	236.4	237.7
47.5°	218.0	220.1	222.0	222.6	223.7
50°	203.4	205.2	207.4	207.7	208.8
52.5°	188.8	190.4	192.4	193.1	194.1
55°	173.2	175.2	177.0	177.6	178.8
57.5°	157.7	159.7	161.4	162.2	163.2
60°	142.1	144.1	145.6	146.5	147.7
62.5°	126.4	128.4	130.0	130.5	131.9
65°	110.5	112.5	114.2	114.7	116.0
67.5°	94.8	96.7	98.5	98.7	100.3
70°	79.2	81.2	82.8	83.0	84.7
72.5°	64.0	66.1	67.7	67.7	69.3
75°	49.4	51.5	53.1	53.1	54.4
77.5°	35.4	37.5	39.1	39.0	40.3
80°	22.3	24.3	25.9	26.1	27.0
82.5°	10.6	12.3	13.6	14.1	15.0
85°	4.8	5.2	5.4	5.5	6.7
87.5°	2.1	2.5	2.9	3.0	3.2
90°	0.1	0.1	0.3	0.5	0.8

(END OF REPORT)