

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: P626436

Luminaire Tested: HLBC4LS9FSD2W1EMWR-3000K-600lm

Issue Date: 11/17/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P626436  
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-3000K-600lm  
Description: 4IN CANLESS LED DOWNLIGHT WITH SELECTABLE CCT AND SELECTABLE LUMEN OUTPUT  
Light Source: (1) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

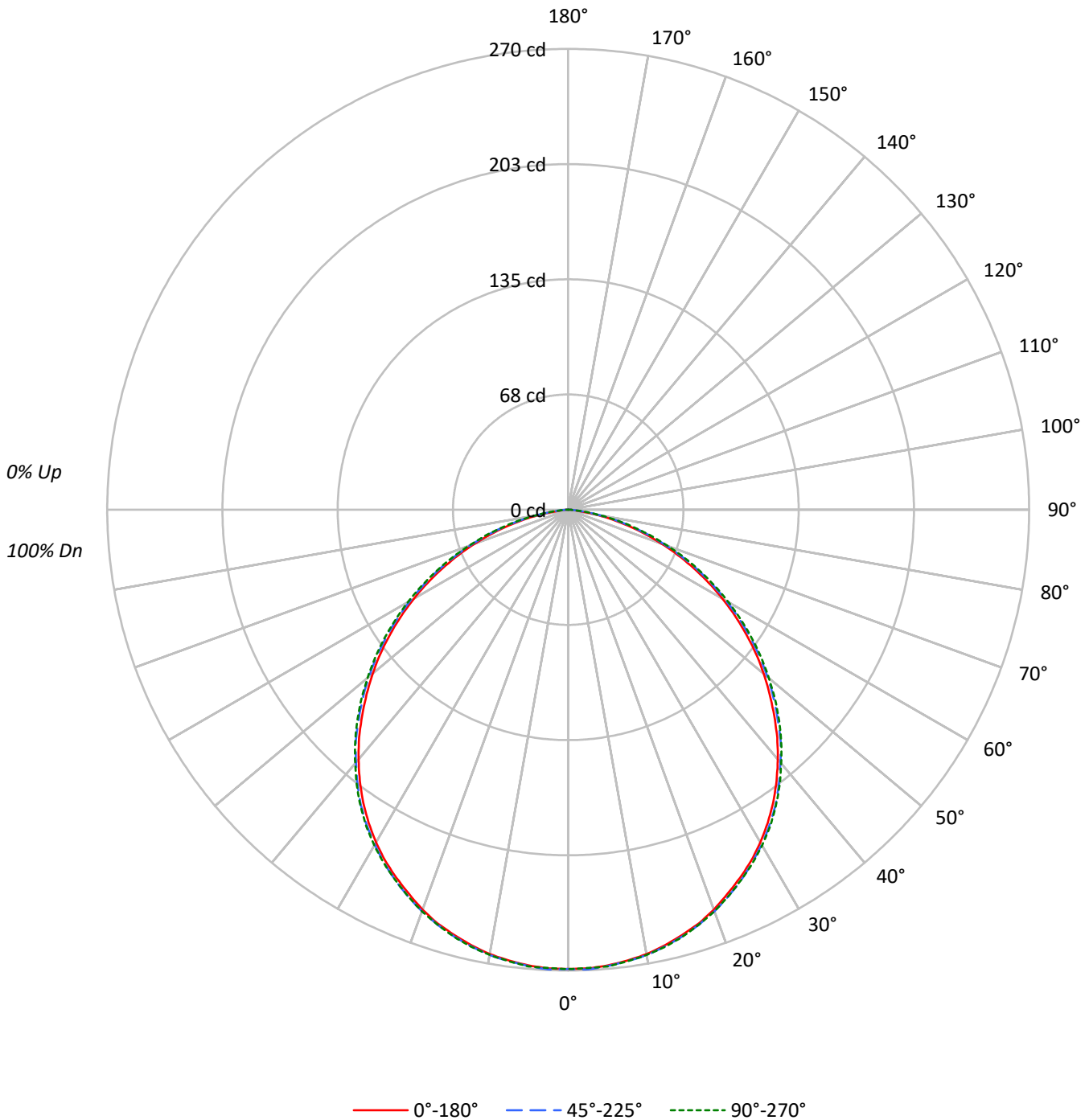
Lumens per Lamp: N/A  
Luminaire Lumens: 720.0 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.25 / 1.35  
Luminous Opening: Circular (Dia: 0.33m x H: 0m)  
CIE Type: Direct

Input Watts (W): 9.2  
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°	3090	3090	3090
5°	3089	3092	3096
10°	3083	3090	3089
15°	3067	3076	3079
20°	3047	3060	3060
25°	3015	3036	3034
30°	2984	3004	3011
35°	2935	2966	2972
40°	2863	2899	2909
45°	2770	2817	2837
50°	2669	2722	2740
55°	2548	2602	2630
60°	2397	2457	2492
65°	2206	2279	2315
70°	1954	2041	2088
75°	1610	1730	1775
80°	1084	1256	1309
85°	474	527	646

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 2837 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.5	3.5
10°-20°	72.9	10.1
20°-30°	110.2	15.3
30°-40°	131.8	18.3
40°-50°	133.4	18.5
50°-60°	115.8	16.1
60°-70°	82.6	11.5
70°-80°	40.9	5.7
80°-90°	6.8	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°	208.6	29.0
0°-40°	340.4	47.3
0°-60°	589.6	81.9
0°-90°	720.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	720.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	269	269	269	269	269	
5°	268	268	268	268	269	25
15°	258	258	259	258	259	73
25°	238	239	240	239	240	110
35°	209	210	212	211	212	131
45°	171	172	174	174	175	132
55°	127	129	130	130	131	114
65°	81	83	84	84	85	80
75°	36	38	39	39	40	39
85°	4	4	4	4	5	6
90°	0	0	0	0	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	269.1	269.1	269.1	269.1	269.1
2.5°	269.0	268.6	269.6	269.0	268.8
5°	268.0	268.0	268.3	268.0	268.6
7.5°	266.4	266.4	266.8	267.3	266.8
10°	264.4	264.2	265.0	264.7	264.9
12.5°	261.4	261.4	262.1	261.7	262.3
15°	258.0	258.3	258.8	258.2	259.0
17.5°	254.2	254.0	254.9	254.7	254.8
20°	249.4	249.6	250.4	250.5	250.4
22.5°	243.7	244.6	245.2	244.6	245.1
25°	238.0	238.7	239.6	239.0	239.5
27.5°	232.0	232.6	233.3	233.0	233.6
30°	225.1	225.9	226.6	226.2	227.1
32.5°	217.5	218.5	219.4	219.2	220.0
35°	209.4	210.5	211.6	211.0	212.0
37.5°	200.4	201.7	202.7	202.7	203.4
40°	191.0	192.2	193.4	193.5	194.1
42.5°	181.2	182.5	184.1	183.7	184.7
45°	170.6	172.4	173.5	173.7	174.7
47.5°	160.1	161.7	163.1	163.6	164.3
50°	149.4	150.8	152.4	152.6	153.4
52.5°	138.7	139.9	141.4	141.8	142.6
55°	127.3	128.7	130.0	130.5	131.4
57.5°	115.9	117.3	118.6	119.2	119.9
60°	104.4	105.9	107.0	107.6	108.5
62.5°	92.9	94.4	95.5	95.9	96.9
65°	81.2	82.7	83.9	84.3	85.2
67.5°	69.6	71.0	72.4	72.5	73.7
70°	58.2	59.6	60.8	61.0	62.2
72.5°	47.0	48.6	49.7	49.8	50.9
75°	36.3	37.8	39.0	39.0	40.0
77.5°	26.0	27.6	28.7	28.7	29.6
80°	16.4	17.8	19.0	19.2	19.8
82.5°	7.8	9.0	10.0	10.4	11.0
85°	3.6	3.8	4.0	4.0	4.9
87.5°	1.6	1.9	2.1	2.2	2.4
90°	0.0	0.1	0.2	0.4	0.6

(END OF REPORT)