

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: P626441

Luminaire Tested: HLBC4LS9FSD2W1EMWR-4000K-900lm

Issue Date: 11/17/2022

Test Information

Test Method: LM-79-2019
Report Number: P626441
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-4000K-900lm
Description: 4IN CANLESS LED DOWNLIGHT WITH SELECTABLE CCT AND SELECTABLE LUMEN OUTPUT
Light Source: (1) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

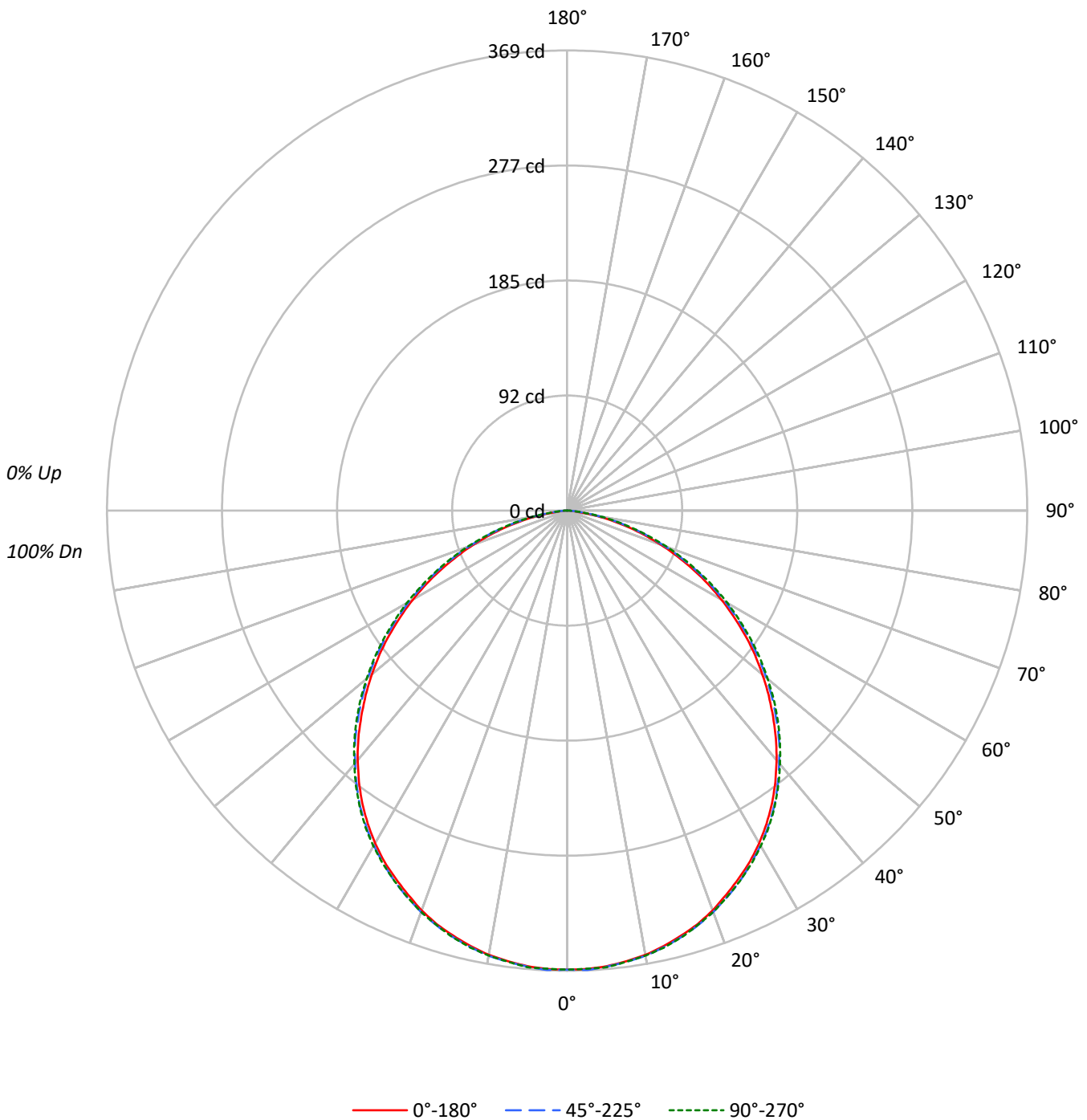
Lumens per Lamp: N/A
Luminaire Lumens: 985.0 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.25 / 1.35
Luminous Opening: Circular (Dia: 0.33m x H: 0m)
CIE Type: Direct

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°	4227	4227	4227
5°	4227	4231	4236
10°	4218	4226	4224
15°	4195	4209	4212
20°	4169	4186	4185
25°	4125	4153	4152
30°	4084	4111	4119
35°	4016	4058	4065
40°	3917	3965	3980
45°	3790	3855	3881
50°	3651	3724	3749
55°	3485	3561	3597
60°	3279	3360	3410
65°	3018	3119	3168
70°	2672	2793	2857
75°	2205	2369	2427
80°	1481	1719	1799
85°	646	725	883

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 3881 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	3.5
10°-20°	99.8	10.1
20°-30°	150.7	15.3
30°-40°	180.3	18.3
40°-50°	182.5	18.5
50°-60°	158.4	16.1
60°-70°	113.0	11.5
70°-80°	56.0	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°	285.3	29.0
0°-40°	465.6	47.3
0°-60°	806.6	81.9
0°-90°	985.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	367	367	367	367	368	35
15°	353	353	354	353	354	100
25°	326	326	328	327	328	150
35°	286	288	290	289	290	179
45°	233	236	237	238	239	180
55°	174	176	178	178	180	156
65°	111	113	115	115	117	110
75°	50	52	53	53	55	53
85°	5	5	6	6	7	8
90°	0	0	0	0	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	368.1	368.1	368.1	368.1	368.1
2.5°	368.0	367.5	368.8	368.1	367.8
5°	366.7	366.6	367.1	366.6	367.5
7.5°	364.4	364.5	364.9	365.6	364.9
10°	361.8	361.5	362.5	362.2	362.3
12.5°	357.6	357.6	358.6	358.0	358.9
15°	352.9	353.3	354.1	353.2	354.3
17.5°	347.7	347.5	348.7	348.4	348.5
20°	341.2	341.4	342.6	342.7	342.5
22.5°	333.3	334.6	335.4	334.7	335.3
25°	325.6	326.5	327.8	326.9	327.7
27.5°	317.4	318.2	319.1	318.8	319.6
30°	308.0	309.1	310.1	309.5	310.7
32.5°	297.6	298.9	300.2	299.9	301.0
35°	286.5	287.9	289.5	288.7	290.0
37.5°	274.2	275.9	277.3	277.3	278.2
40°	261.3	263.0	264.5	264.7	265.5
42.5°	247.9	249.7	251.8	251.4	252.7
45°	233.4	235.8	237.4	237.6	239.0
47.5°	219.1	221.2	223.2	223.7	224.8
50°	204.4	206.3	208.5	208.7	209.9
52.5°	189.7	191.4	193.4	194.1	195.1
55°	174.1	176.1	177.9	178.5	179.7
57.5°	158.5	160.5	162.2	163.1	164.0
60°	142.8	144.9	146.3	147.3	148.5
62.5°	127.1	129.1	130.7	131.2	132.6
65°	111.1	113.1	114.8	115.3	116.6
67.5°	95.3	97.2	99.0	99.2	100.8
70°	79.6	81.6	83.2	83.4	85.1
72.5°	64.4	66.5	68.0	68.1	69.6
75°	49.7	51.8	53.4	53.3	54.7
77.5°	35.6	37.7	39.3	39.2	40.5
80°	22.4	24.4	26.0	26.2	27.2
82.5°	10.6	12.3	13.7	14.2	15.1
85°	4.9	5.2	5.5	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)