

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: P1046655

Luminaire Tested: FMNL1112FS5-(black trim)-940

Issue Date: 07/03/2025

Test Information

Test Method: LM-79-2019
Report Number: P1046655
Test Lab: Cooper lighting solutions
Issue Date: 07/03/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: FMNL1112FS5-(black trim)-940
Description: HALO 11 inch 90 CRI COLOR SELECTABLE flush mount Black Trim FIXTURE with night light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

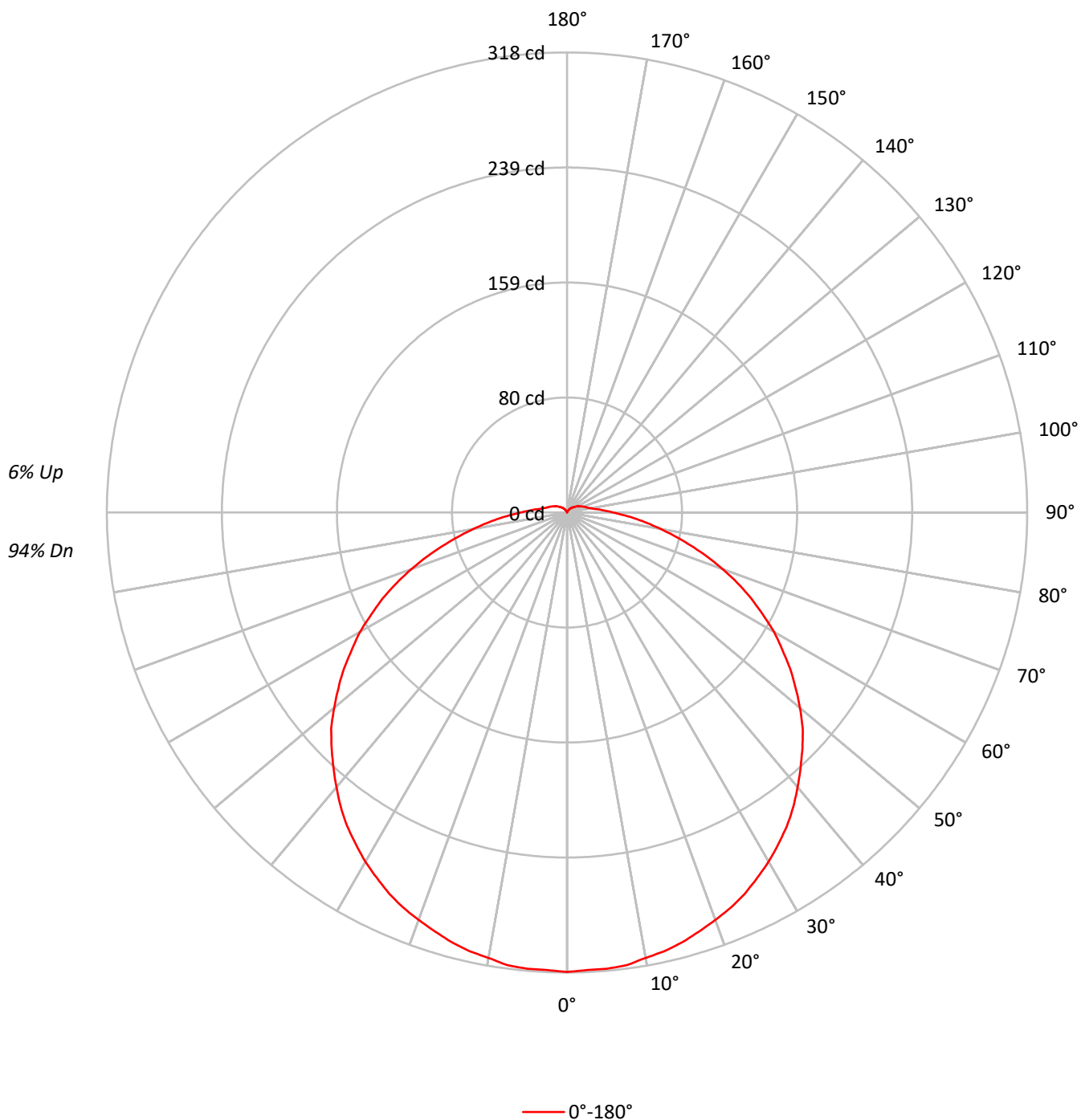
Lumens per Lamp: N/A
Luminaire Lumens: 1109.5 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.3 / 1.43
Luminous Opening: Circular (Dia: 0.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (A_{in}): 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: 28.75 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
RCR																				
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94		
1	106	100	96	91	102	98	93	89	92	89	85	87	84	82	83	80	78	76		
2	96	87	79	73	92	84	77	72	80	74	69	75	71	67	72	68	64	62		
3	87	76	67	60	84	73	65	59	70	63	57	66	60	55	63	58	54	51		
4	79	67	57	50	76	65	56	50	62	54	48	58	52	47	56	50	46	43		
5	73	59	50	43	70	58	49	42	55	47	41	52	46	40	50	44	39	37		
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	32		
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28		
8	58	44	35	29	56	43	34	29	41	33	28	39	33	28	38	32	27	25		
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	35	29	24	22		
10	50	37	29	23	49	36	28	23	35	28	23	33	27	22	32	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	5374
5°	5377
10°	5371
15°	5388
20°	5396
25°	5427
30°	5445
35°	5470
40°	5475
45°	5503
50°	5530
55°	5552
60°	5594
65°	5621
70°	5664
75°	5792
80°	6402
85°	9085

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 87.5°

Luminance: 15050 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.1	2.7
10°-20°	86.8	7.8
20°-30°	134.0	12.1
30°-40°	165.6	14.9
40°-50°	177.5	16.0
50°-60°	168.1	15.2
60°-70°	138.6	12.5
70°-80°	94.2	8.5
80°-90°	51.8	4.7
90°-100°	25.4	2.3
100°-110°	14.9	1.3
110°-120°	10.1	0.9
120°-130°	6.4	0.6
130°-140°	3.7	0.3
140°-150°	1.8	0.2
150°-160°	0.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	250.9	22.6
0°-40°	416.5	37.5
0°-60°	762.1	68.7
0°-90°	1046.8	94.3
90°-120°	50.3	4.5
90°-150°	62.2	5.6
90°-180°	63.0	5.7
0°-180°	1109.5	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	318	
5°	317	30
15°	308	87
25°	291	134
35°	265	166
45°	230	178
55°	188	168
65°	140	139
75°	89	94
85°	47	42
90°	32	18
95°	23	17
105°	14	15
115°	10	10
125°	7	6
135°	5	4
145°	3	2
155°	1	1
165°	0	0
175°	0	0
180°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	317.6
2.5°	316.6
5°	316.6
7.5°	315.6
10°	312.6
12.5°	310.6
15°	307.6
17.5°	303.6
20°	299.7
22.5°	295.7
25°	290.7
27.5°	284.7
30°	278.7
32.5°	271.8
35°	264.8
37.5°	256.8
40°	247.9
42.5°	238.9
45°	230.0
47.5°	221.0
50°	210.1
52.5°	199.1
55°	188.2
57.5°	176.2
60°	165.3
62.5°	152.3
65°	140.4
67.5°	127.4
70°	114.5
72.5°	101.5
75°	88.6
77.5°	76.7
80°	65.7
82.5°	55.7
85°	46.8
87.5°	38.8
90°	31.9
92.5°	26.9
95°	22.9
97.5°	18.9
100°	16.9
102.5°	14.9
105°	13.9
107.5°	12.9
110°	11.9



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CANDELA DISTRIBUTION (continued):

	0°
112.5°	11.0
115°	10.0
117.5°	9.0
120°	9.0
122.5°	8.0
125°	7.0
127.5°	6.0
130°	6.0
132.5°	5.0
135°	5.0
137.5°	4.0
140°	4.0
142.5°	3.0
145°	3.0
147.5°	2.0
150°	2.0
152.5°	1.0
155°	1.0
157.5°	1.0
160°	1.0
162.5°	0.0
165°	0.0
167.5°	0.0
170°	0.0
172.5°	0.0
175°	0.0
177.5°	0.0
180°	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room Dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	17.7	19.3	18.2	19.7	20.2	17.7	19.3	18.2	19.7	20.2
	3H	19.9	21.3	20.3	21.7	22.2	19.9	21.3	20.3	21.7	22.2
	4H	20.8	22.1	21.3	22.6	23.1	20.8	22.1	21.3	22.6	23.1
	6H	21.6	22.9	22.1	23.4	23.9	21.6	22.9	22.1	23.4	23.9
	8H	22.0	23.2	22.5	23.7	24.3	22.0	23.2	22.5	23.7	24.3
	12H	22.4	23.6	23.0	24.1	24.7	22.4	23.6	23.0	24.1	24.7
4H	2H	18.4	19.8	18.9	20.3	20.8	18.4	19.8	18.9	20.3	20.8
	3H	20.8	22.0	21.3	22.5	23.0	20.8	22.0	21.3	22.5	23.0
	4H	21.9	22.9	22.4	23.4	24.0	21.9	22.9	22.4	23.4	24.0
	6H	22.9	23.8	23.4	24.4	24.9	22.9	23.8	23.4	24.4	24.9
	8H	23.4	24.3	23.9	24.8	25.4	23.4	24.3	23.9	24.8	25.4
	12H	23.9	24.7	24.5	25.3	25.9	23.9	24.7	24.5	25.3	25.9
8H	4H	22.3	23.2	22.9	23.7	24.3	22.3	23.2	22.9	23.7	24.3
	6H	23.5	24.3	24.1	24.9	25.5	23.5	24.3	24.1	24.9	25.5
	8H	24.2	24.8	24.8	25.4	26.0	24.2	24.8	24.8	25.4	26.0
	12H	24.9	25.5	25.5	26.1	26.7	24.9	25.5	25.5	26.1	26.7
12H	4H	22.4	23.2	23.0	23.8	24.4	22.4	23.2	23.0	23.8	24.4
	6H	23.7	24.4	24.3	24.9	25.6	23.7	24.4	24.3	24.9	25.6
	8H	24.4	25.0	25.0	25.6	26.3	24.4	25.0	25.0	25.6	26.3

(END OF REPORT)