

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: FAIL-SAFE

Report Number: P561349

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561349
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2HI-35-UNV-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7501.0 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

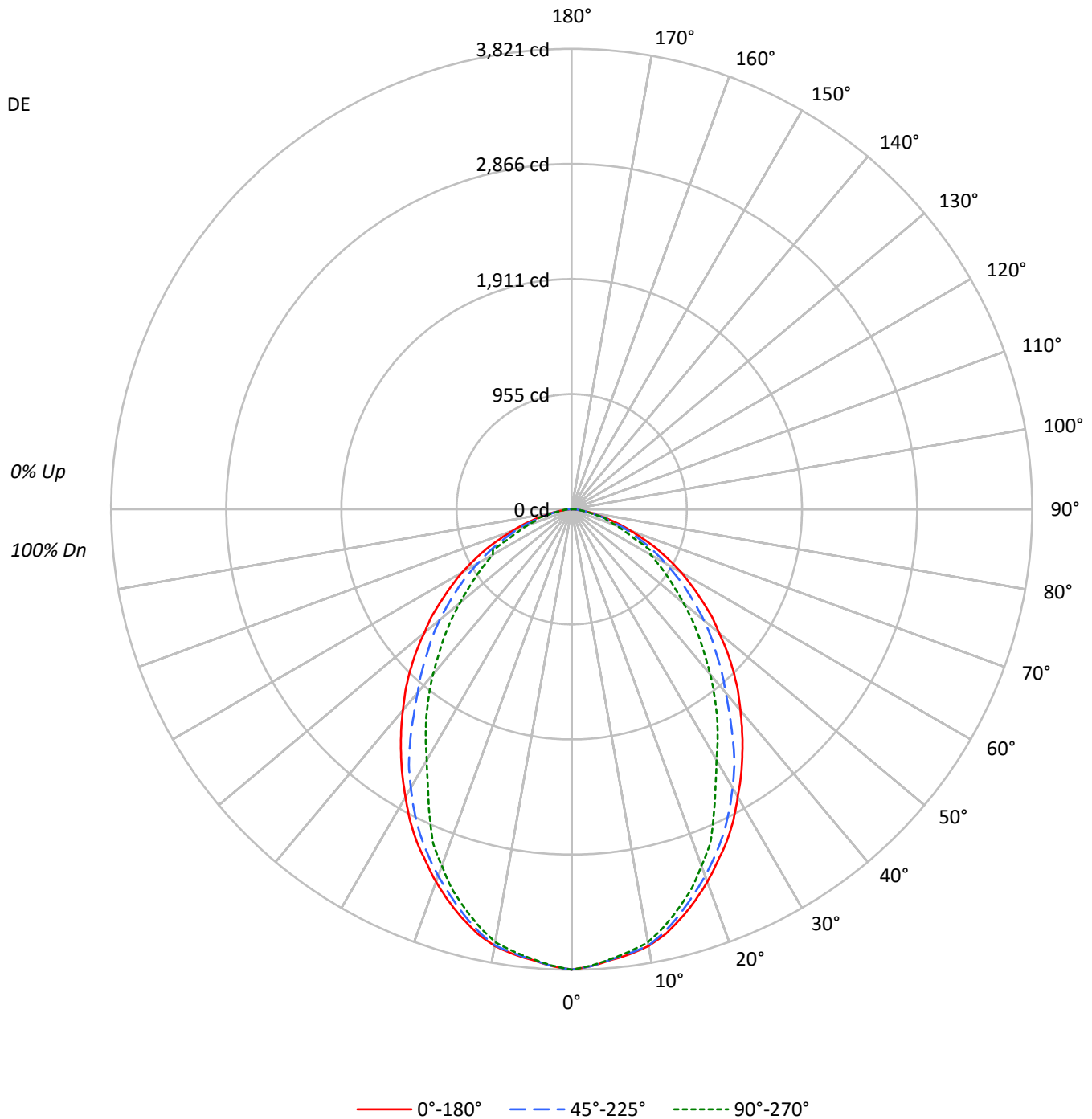
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10282	10282	10282
5°	10142	10130	10118
10°	10054	10042	9970
15°	9783	9685	9550
20°	9424	9272	9019
25°	9037	8840	8289
30°	8565	8290	7467
35°	8112	7662	6907
40°	7650	6983	6284
45°	7212	6455	5682
50°	6676	5992	5067
55°	6176	5430	4539
60°	5658	4850	4065
65°	4979	4247	3600
70°	4101	3718	3058
75°	3261	2848	2985
80°	2191	2053	1917
85°	1365	1636	1908

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7212 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.7	4.7
10°-20°	976.1	13.0
20°-30°	1351.4	18.0
30°-40°	1441.0	19.2
40°-50°	1314.6	17.5
50°-60°	1029.9	13.7
60°-70°	671.2	8.9
70°-80°	297.4	4.0
80°-90°	63.8	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°	2683.2	35.8
0°-40°	4124.1	55.0
0°-60°	6468.6	86.2
0°-90°	7501.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3821	3821	3821	3821	3821	
5°	3755	3750	3750	3746	3746	356
15°	3512	3512	3476	3441	3428	987
25°	3044	3026	2977	2871	2792	1397
35°	2469	2452	2332	2156	2103	1544
45°	1895	1855	1696	1555	1493	1460
55°	1316	1277	1157	1020	967	1181
65°	782	738	667	680	565	771
75°	314	292	274	261	287	336
85°	44	49	53	57	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3820.9	3820.9	3820.9	3820.9	3820.9
2.5°	3794.4	3794.4	3794.4	3790.0	3790.0
5°	3754.7	3750.2	3750.2	3745.8	3745.8
7.5°	3723.7	3719.3	3714.9	3710.5	3701.6
10°	3679.6	3679.6	3675.1	3653.1	3648.6
12.5°	3608.9	3604.5	3586.8	3555.9	3547.0
15°	3511.7	3511.7	3476.4	3441.0	3427.8
17.5°	3405.7	3401.3	3357.1	3321.8	3304.1
20°	3290.8	3282.0	3237.8	3180.4	3149.5
22.5°	3162.7	3162.7	3109.7	3034.6	3003.7
25°	3043.5	3025.8	2977.2	2871.2	2791.7
27.5°	2906.5	2880.0	2827.0	2676.8	2584.1
30°	2756.4	2743.1	2668.0	2473.7	2403.0
32.5°	2615.0	2592.9	2513.4	2310.2	2252.8
35°	2469.2	2451.6	2332.3	2155.6	2102.6
37.5°	2323.5	2301.4	2151.2	2009.8	1943.6
40°	2177.7	2151.2	1987.8	1859.7	1789.0
42.5°	2040.8	2005.4	1846.4	1709.5	1630.0
45°	1895.0	1855.2	1696.2	1554.9	1493.0
47.5°	1749.2	1713.9	1568.1	1422.4	1351.7
50°	1594.6	1563.7	1431.2	1285.4	1210.3
52.5°	1466.5	1417.9	1289.8	1144.1	1082.2
55°	1316.3	1276.6	1157.3	1020.4	967.4
57.5°	1179.4	1139.6	1029.2	901.1	856.9
60°	1051.3	993.9	901.1	790.7	755.3
62.5°	910.0	865.8	786.3	693.5	737.7
65°	781.9	737.7	667.0	680.3	565.4
67.5°	640.5	618.4	556.6	494.7	477.1
70°	521.2	494.7	472.6	406.4	388.7
72.5°	415.2	388.7	357.8	322.5	309.2
75°	313.6	291.5	273.9	260.6	287.1
77.5°	216.4	207.6	194.4	181.1	176.7
80°	141.4	136.9	132.5	128.1	123.7
82.5°	83.9	83.9	83.9	83.9	83.9
85°	44.2	48.6	53.0	57.4	61.8
87.5°	26.5	26.5	30.9	35.3	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)