

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: P561425

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561425
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-40-UNV-82-84-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7653.0 lumens
Efficiency: N/A
Efficacy: 88.6 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

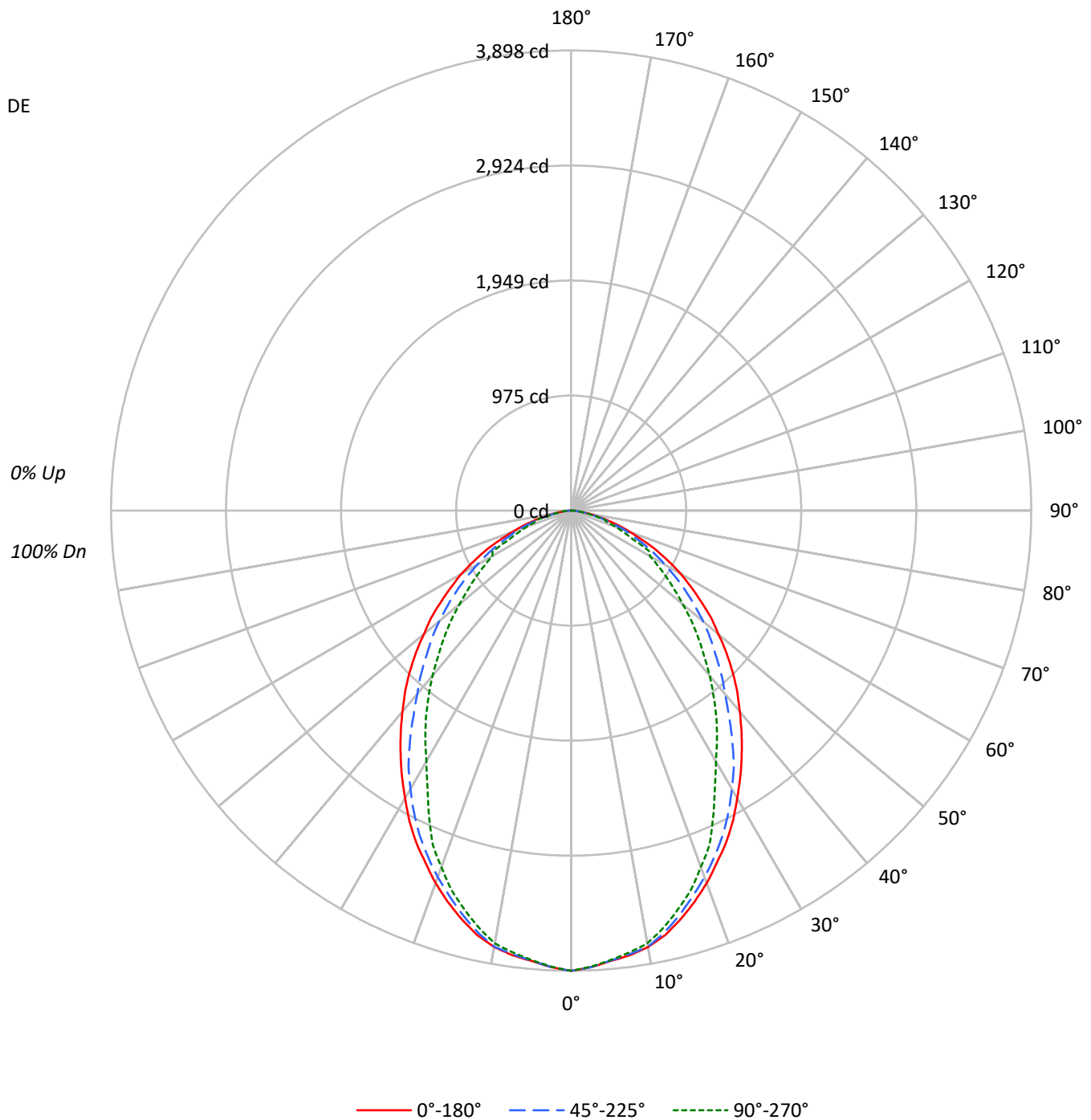
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10490	10490	10490
5°	10348	10336	10323
10°	10258	10246	10172
15°	9982	9881	9743
20°	9615	9460	9202
25°	9220	9019	8457
30°	8738	8458	7618
35°	8276	7817	7047
40°	7805	7124	6412
45°	7358	6586	5797
50°	6811	6113	5169
55°	6301	5540	4631
60°	5773	4948	4148
65°	5079	4333	3673
70°	4184	3794	3120
75°	3327	2905	3045
80°	2235	2095	1956
85°	1392	1670	1948

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7358 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	362.9	4.7
10°-20°	995.9	13.0
20°-30°	1378.8	18.0
30°-40°	1470.2	19.2
40°-50°	1341.2	17.5
50°-60°	1050.7	13.7
60°-70°	684.8	8.9
70°-80°	303.4	4.0
80°-90°	65.1	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°	2737.5	35.8
0°-40°	4207.7	55.0
0°-60°	6599.6	86.2
0°-90°	7653.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7653.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3898	3898	3898	3898	3898	
5°	3831	3826	3826	3822	3822	364
15°	3583	3583	3547	3511	3497	1007
25°	3105	3087	3038	2929	2848	1426
35°	2519	2501	2380	2199	2145	1575
45°	1933	1893	1731	1586	1523	1489
55°	1343	1302	1181	1041	987	1205
65°	798	753	680	694	577	786
75°	320	297	279	266	293	343
85°	45	50	54	59	63	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3898.3	3898.3	3898.3	3898.3	3898.3
2.5°	3871.3	3871.3	3871.3	3866.8	3866.8
5°	3830.7	3826.2	3826.2	3821.7	3821.7
7.5°	3799.2	3794.7	3790.2	3785.7	3776.7
10°	3754.1	3754.1	3749.6	3727.1	3722.6
12.5°	3682.0	3677.5	3659.5	3627.9	3618.9
15°	3582.9	3582.9	3546.8	3510.8	3497.2
17.5°	3474.7	3470.2	3425.1	3389.1	3371.0
20°	3357.5	3348.5	3303.4	3244.9	3213.3
22.5°	3226.8	3226.8	3172.7	3096.1	3064.6
25°	3105.1	3087.1	3037.5	2929.4	2848.3
27.5°	2965.4	2938.4	2884.3	2731.1	2636.4
30°	2812.2	2798.7	2722.1	2523.8	2451.7
32.5°	2668.0	2645.5	2564.3	2357.0	2298.4
35°	2519.3	2501.2	2379.6	2199.3	2145.2
37.5°	2370.5	2348.0	2194.8	2050.6	1983.0
40°	2221.8	2194.8	2028.0	1897.3	1825.2
42.5°	2082.1	2046.1	1883.8	1744.1	1663.0
45°	1933.4	1892.8	1730.6	1586.4	1523.3
47.5°	1784.7	1748.6	1599.9	1451.2	1379.1
50°	1626.9	1595.4	1460.2	1311.5	1234.8
52.5°	1496.2	1446.7	1316.0	1167.2	1104.2
55°	1343.0	1302.4	1180.8	1041.1	987.0
57.5°	1203.3	1162.7	1050.1	919.4	874.3
60°	1072.6	1014.0	919.4	806.7	770.7
62.5°	928.4	883.3	802.2	707.6	752.6
65°	797.7	752.6	680.5	694.0	576.9
67.5°	653.5	630.9	567.9	504.8	486.7
70°	531.8	504.8	482.2	414.6	396.6
72.5°	423.6	396.6	365.0	329.0	315.5
75°	320.0	297.4	279.4	265.9	292.9
77.5°	220.8	211.8	198.3	184.8	180.3
80°	144.2	139.7	135.2	130.7	126.2
82.5°	85.6	85.6	85.6	85.6	85.6
85°	45.1	49.6	54.1	58.6	63.1
87.5°	27.0	27.0	31.5	36.1	40.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)