

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: P561494

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561494
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-50-UNV-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6349.0 lumens
Efficiency: N/A
Efficacy: 73.5 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

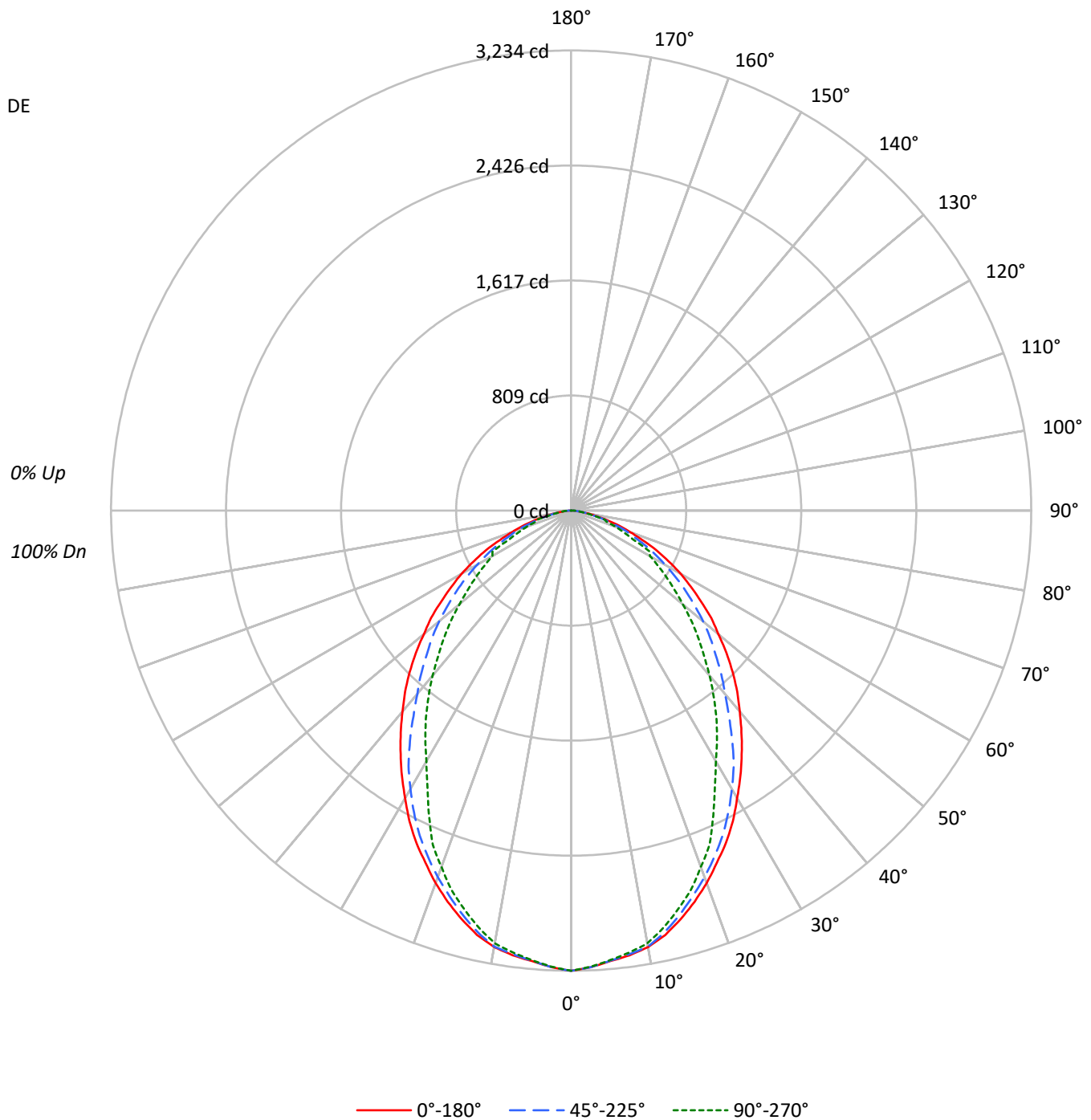
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8703	8703	8703
5°	8585	8575	8564
10°	8510	8500	8439
15°	8281	8198	8083
20°	7976	7848	7634
25°	7649	7482	7016
30°	7249	7017	6320
35°	6866	6485	5846
40°	6475	5910	5319
45°	6104	5464	4809
50°	5650	5071	4289
55°	5227	4596	3841
60°	4789	4105	3441
65°	4214	3595	3047
70°	3471	3148	2589
75°	2760	2410	2527
80°	1853	1739	1623
85°	1155	1386	1615

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6104 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.1	4.7
10°-20°	826.2	13.0
20°-30°	1143.8	18.0
30°-40°	1219.7	19.2
40°-50°	1112.7	17.5
50°-60°	871.7	13.7
60°-70°	568.1	8.9
70°-80°	251.7	4.0
80°-90°	54.0	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°	2271.1	35.8
0°-40°	3490.7	55.0
0°-60°	5475.1	86.2
0°-90°	6349.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6349.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3234	3234	3234	3234	3234	
5°	3178	3174	3174	3170	3170	302
15°	2972	2972	2942	2913	2901	836
25°	2576	2561	2520	2430	2363	1183
35°	2090	2075	1974	1825	1780	1307
45°	1604	1570	1436	1316	1264	1236
55°	1114	1080	980	864	819	999
65°	662	624	565	576	479	652
75°	266	247	232	221	243	285
85°	37	41	45	49	52	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3234.1	3234.1	3234.1	3234.1	3234.1
2.5°	3211.7	3211.7	3211.7	3207.9	3207.9
5°	3178.0	3174.3	3174.3	3170.5	3170.5
7.5°	3151.8	3148.1	3144.4	3140.6	3133.1
10°	3114.5	3114.5	3110.7	3092.0	3088.3
12.5°	3054.6	3050.9	3035.9	3009.8	3002.3
15°	2972.4	2972.4	2942.5	2912.6	2901.3
17.5°	2882.6	2878.9	2841.5	2811.6	2796.7
20°	2785.4	2778.0	2740.6	2692.0	2665.8
22.5°	2677.0	2677.0	2632.1	2568.6	2542.4
25°	2576.1	2561.1	2520.0	2430.2	2362.9
27.5°	2460.2	2437.7	2392.9	2265.7	2187.2
30°	2333.0	2321.8	2258.3	2093.7	2033.9
32.5°	2213.4	2194.7	2127.4	1955.4	1906.8
35°	2090.0	2075.1	1974.1	1824.6	1779.7
37.5°	1966.6	1947.9	1820.8	1701.2	1645.1
40°	1843.2	1820.8	1682.5	1574.1	1514.2
42.5°	1727.3	1697.4	1562.8	1446.9	1379.6
45°	1604.0	1570.3	1435.7	1316.1	1263.7
47.5°	1480.6	1450.7	1327.3	1203.9	1144.1
50°	1349.7	1323.5	1211.4	1088.0	1024.4
52.5°	1241.3	1200.2	1091.7	968.4	916.0
55°	1114.2	1080.5	979.6	863.7	818.8
57.5°	998.3	964.6	871.1	762.7	725.3
60°	889.8	841.2	762.7	669.3	639.3
62.5°	770.2	732.8	665.5	587.0	624.4
65°	661.8	624.4	564.6	575.8	478.6
67.5°	542.1	523.4	471.1	418.7	403.8
70°	441.2	418.7	400.1	344.0	329.0
72.5°	351.5	329.0	302.8	272.9	261.7
75°	265.5	246.8	231.8	220.6	243.0
77.5°	183.2	175.7	164.5	153.3	149.6
80°	119.6	115.9	112.2	108.4	104.7
82.5°	71.0	71.0	71.0	71.0	71.0
85°	37.4	41.1	44.9	48.6	52.3
87.5°	22.4	22.4	26.2	29.9	33.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)