

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: P561429

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561429
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-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7417.0 lumens
Efficiency: N/A
Efficacy: 85.8 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

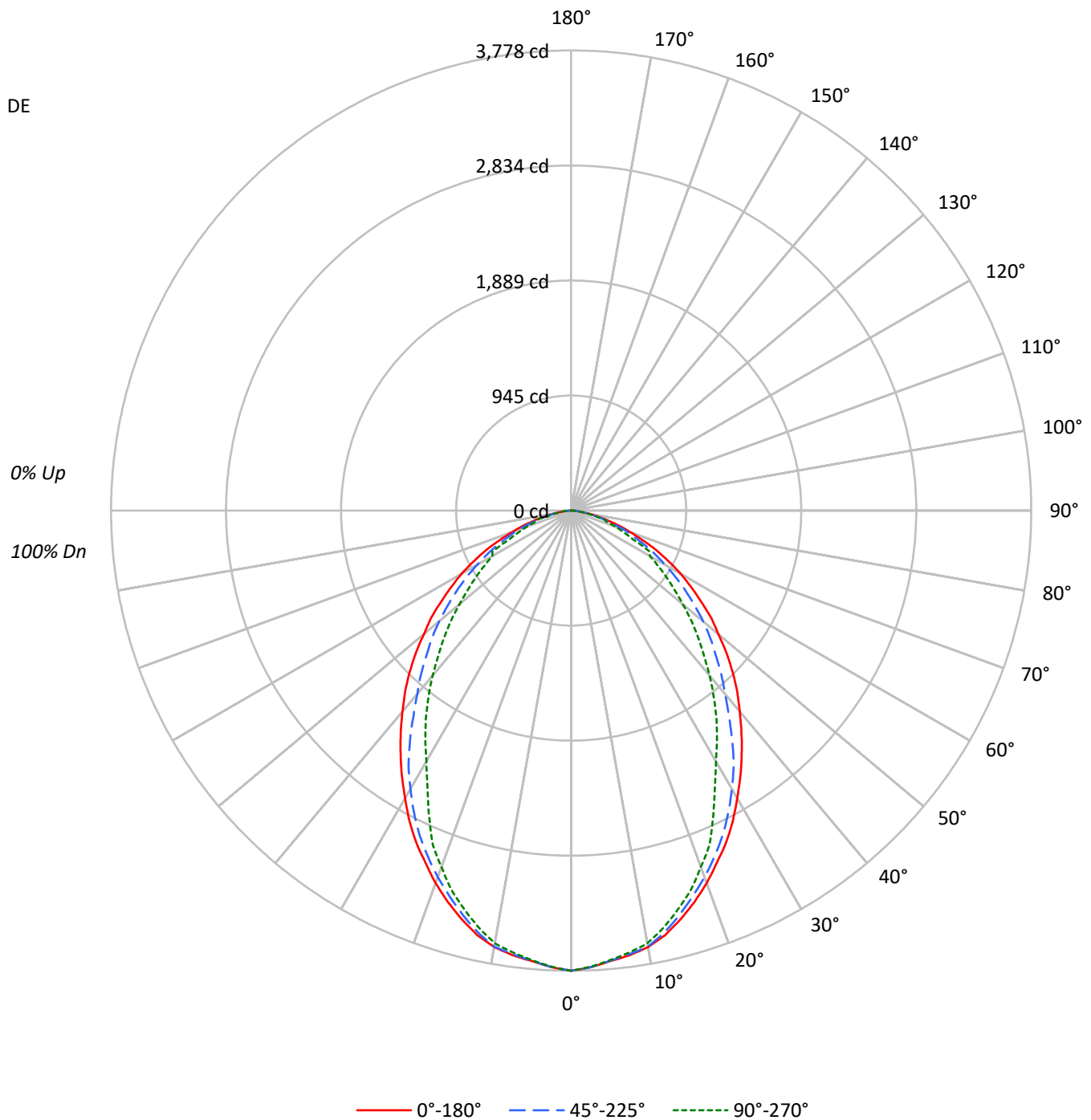
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10029	10017	10005
10°	9942	9930	9858
15°	9674	9576	9443
20°	9318	9168	8918
25°	8935	8741	8196
30°	8469	8197	7383
35°	8021	7576	6830
40°	7564	6904	6214
45°	7131	6383	5618
50°	6601	5925	5010
55°	6107	5369	4487
60°	5595	4795	4020
65°	4923	4199	3560
70°	4055	3677	3024
75°	3224	2816	2952
80°	2166	2030	1895
85°	1349	1618	1886

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7131 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.7	4.7
10°-20°	965.2	13.0
20°-30°	1336.2	18.0
30°-40°	1424.8	19.2
40°-50°	1299.9	17.5
50°-60°	1018.3	13.7
60°-70°	663.7	8.9
70°-80°	294.1	4.0
80°-90°	63.1	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°	2653.1	35.8
0°-40°	4078.0	55.0
0°-60°	6396.1	86.2
0°-90°	7417.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7417.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3778	3778	3778	3778	3778	
5°	3713	3708	3708	3704	3704	352
15°	3472	3472	3437	3402	3389	976
25°	3009	2992	2944	2839	2760	1382
35°	2442	2424	2306	2132	2079	1526
45°	1874	1834	1677	1538	1476	1443
55°	1302	1262	1144	1009	956	1167
65°	773	729	660	673	559	762
75°	310	288	271	258	284	332
85°	44	48	52	57	61	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3778.1	3778.1	3778.1	3778.1	3778.1
2.5°	3751.9	3751.9	3751.9	3747.5	3747.5
5°	3712.6	3708.2	3708.2	3703.9	3703.9
7.5°	3682.0	3677.7	3673.3	3668.9	3660.2
10°	3638.4	3638.4	3634.0	3612.1	3607.8
12.5°	3568.5	3564.1	3546.6	3516.1	3507.3
15°	3472.4	3472.4	3437.4	3402.5	3389.4
17.5°	3367.6	3363.2	3319.5	3284.6	3267.1
20°	3254.0	3245.3	3201.6	3144.8	3114.2
22.5°	3127.3	3127.3	3074.9	3000.7	2970.1
25°	3009.4	2991.9	2943.9	2839.1	2760.4
27.5°	2874.0	2847.8	2795.4	2646.9	2555.1
30°	2725.5	2712.4	2638.1	2446.0	2376.1
32.5°	2585.7	2563.9	2485.3	2284.3	2227.6
35°	2441.6	2424.1	2306.2	2131.5	2079.1
37.5°	2297.4	2275.6	2127.1	1987.3	1921.8
40°	2153.3	2127.1	1965.5	1838.8	1768.9
42.5°	2017.9	1983.0	1825.7	1690.3	1611.7
45°	1873.8	1834.5	1677.2	1537.5	1476.3
47.5°	1729.6	1694.7	1550.6	1406.4	1336.5
50°	1576.8	1546.2	1415.2	1271.0	1196.8
52.5°	1450.1	1402.1	1275.4	1131.3	1070.1
55°	1301.6	1262.3	1144.4	1009.0	956.5
57.5°	1166.2	1126.9	1017.7	891.0	847.3
60°	1039.5	982.7	891.0	781.8	746.9
62.5°	899.8	856.1	777.5	685.7	729.4
65°	773.1	729.4	659.5	672.6	559.1
67.5°	633.3	611.5	550.3	489.2	471.7
70°	515.4	489.2	467.4	401.8	384.4
72.5°	410.6	384.4	353.8	318.8	305.7
75°	310.1	288.3	270.8	257.7	283.9
77.5°	214.0	205.3	192.2	179.1	174.7
80°	139.8	135.4	131.0	126.7	122.3
82.5°	83.0	83.0	83.0	83.0	83.0
85°	43.7	48.0	52.4	56.8	61.1
87.5°	26.2	26.2	30.6	34.9	39.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)