

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: P563718

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563718
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-24-4-LD4-4HI-40-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14473.0 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

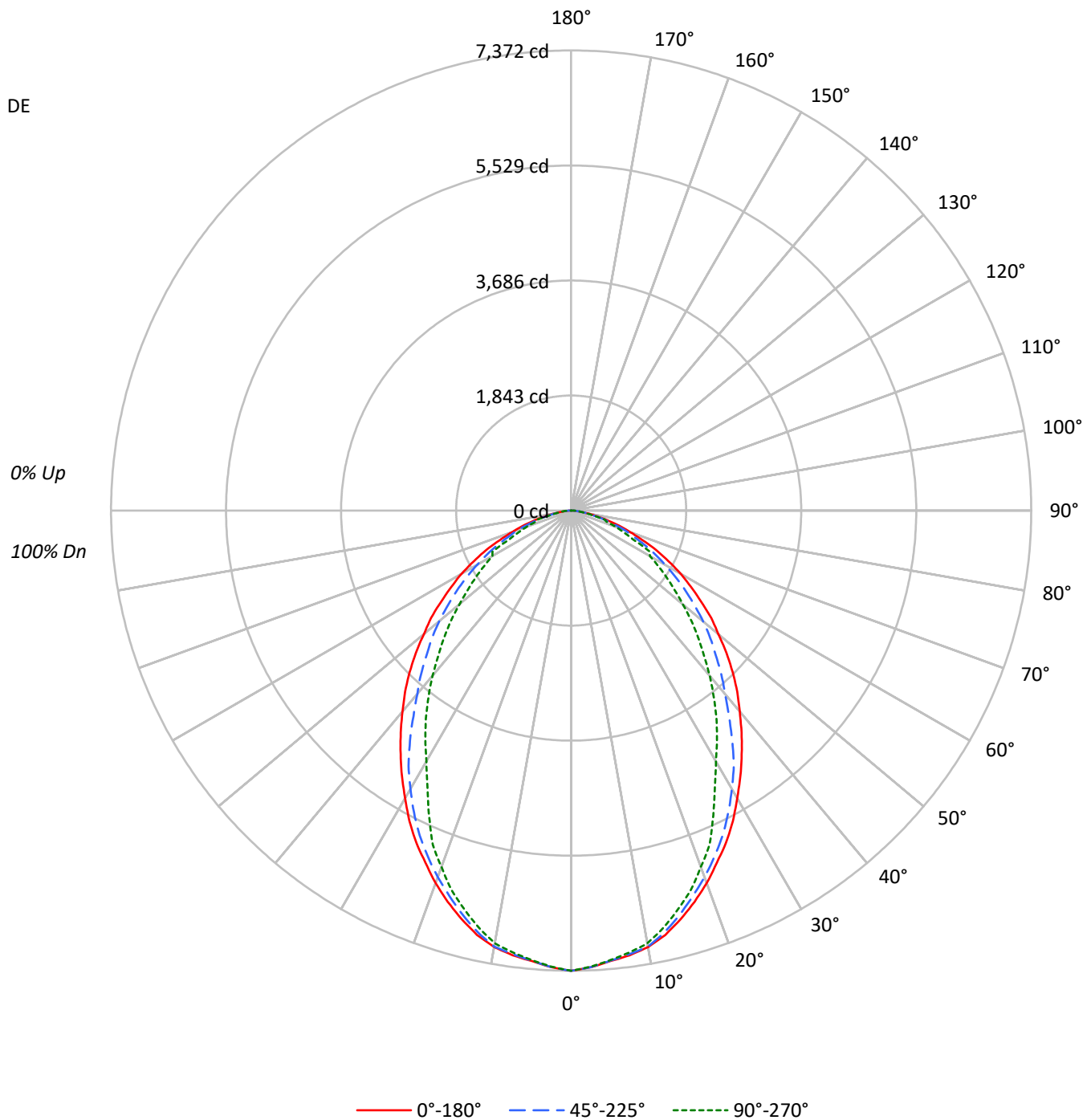
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9919	9919	9919
5°	9785	9773	9762
10°	9700	9688	9618
15°	9438	9343	9213
20°	9092	8945	8701
25°	8718	8528	7997
30°	8263	7998	7203
35°	7826	7392	6664
40°	7380	6736	6063
45°	6957	6228	5482
50°	6440	5780	4888
55°	5958	5238	4378
60°	5459	4679	3922
65°	4803	4097	3473
70°	3956	3588	2950
75°	3146	2747	2880
80°	2113	1981	1849
85°	1315	1579	1842

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6957 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	686.3	4.7
10°-20°	1883.4	13.0
20°-30°	2607.4	18.0
30°-40°	2780.3	19.2
40°-50°	2536.4	17.5
50°-60°	1987.1	13.7
60°-70°	1295.1	8.9
70°-80°	573.8	4.0
80°-90°	123.2	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°	5177.1	35.8
0°-40°	7957.4	55.0
0°-60°	12480.9	86.2
0°-90°	14473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14473.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7372	7372	7372	7372	7372	
5°	7244	7236	7236	7228	7228	688
15°	6776	6776	6708	6639	6614	1905
25°	5872	5838	5744	5540	5386	2696
35°	4764	4730	4500	4159	4057	2979
45°	3656	3580	3273	3000	2881	2816
55°	2540	2463	2233	1969	1866	2278
65°	1509	1423	1287	1312	1091	1487
75°	605	562	528	503	554	649
85°	85	94	102	111	119	118
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7372.4	7372.4	7372.4	7372.4	7372.4
2.5°	7321.2	7321.2	7321.2	7312.7	7312.7
5°	7244.5	7236.0	7236.0	7227.5	7227.5
7.5°	7184.8	7176.3	7167.8	7159.3	7142.2
10°	7099.6	7099.6	7091.1	7048.5	7040.0
12.5°	6963.3	6954.7	6920.6	6861.0	6843.9
15°	6775.7	6775.7	6707.6	6639.4	6613.8
17.5°	6571.2	6562.7	6477.4	6409.3	6375.2
20°	6349.6	6332.6	6247.3	6136.5	6076.9
22.5°	6102.4	6102.4	6000.2	5855.3	5795.6
25°	5872.3	5838.2	5744.5	5539.9	5386.5
27.5°	5608.1	5557.0	5454.7	5164.9	4985.9
30°	5318.3	5292.8	5147.9	4772.9	4636.5
32.5°	5045.6	5003.0	4849.6	4457.5	4346.7
35°	4764.3	4730.2	4500.1	4159.2	4056.9
37.5°	4483.1	4440.5	4150.7	3877.9	3750.1
40°	4201.8	4150.7	3835.3	3588.2	3451.8
42.5°	3937.6	3869.4	3562.6	3298.4	3145.0
45°	3656.3	3579.6	3272.8	3000.1	2880.8
47.5°	3375.1	3306.9	3025.6	2744.4	2608.0
50°	3076.8	3017.1	2761.4	2480.2	2335.3
52.5°	2829.6	2735.9	2488.7	2207.4	2088.1
55°	2539.8	2463.1	2233.0	1968.8	1866.5
57.5°	2275.6	2198.9	1985.8	1738.7	1653.5
60°	2028.5	1917.7	1738.7	1525.6	1457.4
62.5°	1755.7	1670.5	1517.1	1338.1	1423.3
65°	1508.6	1423.3	1287.0	1312.5	1090.9
67.5°	1235.8	1193.2	1073.9	954.6	920.5
70°	1005.7	954.6	912.0	784.1	750.0
72.5°	801.2	750.0	690.4	622.2	596.6
75°	605.1	562.5	528.4	502.9	554.0
77.5°	417.6	400.6	375.0	349.4	340.9
80°	272.7	264.2	255.7	247.2	238.6
82.5°	161.9	161.9	161.9	161.9	161.9
85°	85.2	93.8	102.3	110.8	119.3
87.5°	51.1	51.1	59.7	68.2	76.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)