

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: P563732

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563732
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-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14643.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

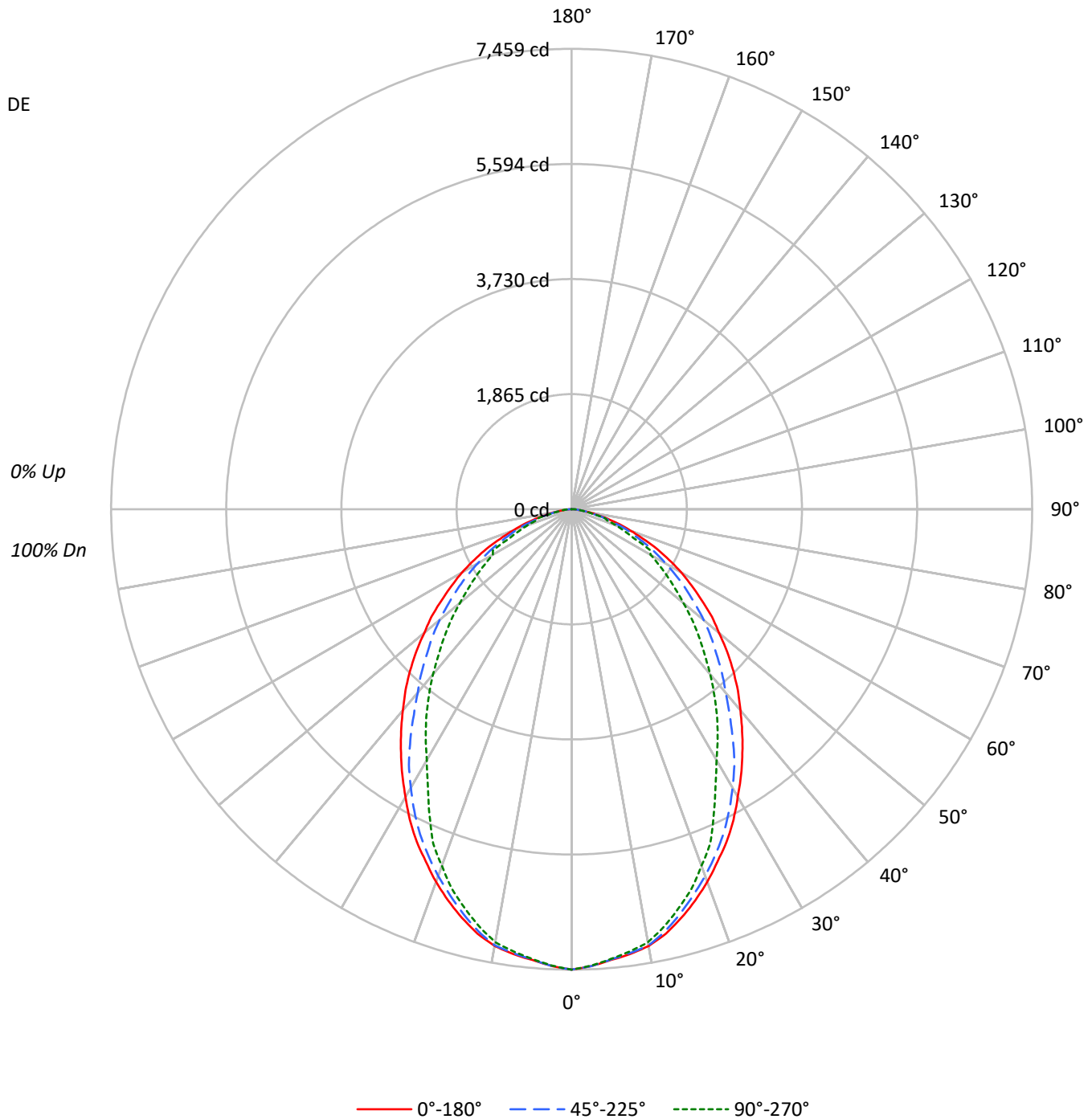
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10036	10036	10036
5°	9900	9888	9876
10°	9814	9802	9731
15°	9549	9453	9321
20°	9198	9050	8803
25°	8820	8628	8091
30°	8360	8092	7288
35°	7918	7478	6742
40°	7467	6816	6134
45°	7039	6301	5546
50°	6516	5848	4946
55°	6028	5300	4430
60°	5523	4734	3968
65°	4859	4145	3514
70°	4003	3630	2985
75°	3183	2779	2914
80°	2138	2005	1870
85°	1331	1598	1863

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7039 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	694.3	4.7
10°-20°	1905.5	13.0
20°-30°	2638.1	18.0
30°-40°	2812.9	19.2
40°-50°	2566.2	17.5
50°-60°	2010.4	13.7
60°-70°	1310.3	8.9
70°-80°	580.5	4.0
80°-90°	124.6	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°	5237.9	35.8
0°-40°	8050.9	55.0
0°-60°	12627.5	86.2
0°-90°	14643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14643.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7459	7459	7459	7459	7459	
5°	7330	7321	7321	7312	7312	696
15°	6855	6855	6786	6717	6692	1927
25°	5941	5907	5812	5605	5450	2728
35°	4820	4786	4553	4208	4105	3014
45°	3699	3622	3311	3035	2915	2850
55°	2570	2492	2259	1992	1888	2305
65°	1526	1440	1302	1328	1104	1504
75°	612	569	535	509	560	656
85°	86	95	104	112	121	120
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7458.9	7458.9	7458.9	7458.9	7458.9
2.5°	7407.2	7407.2	7407.2	7398.6	7398.6
5°	7329.6	7321.0	7321.0	7312.4	7312.4
7.5°	7269.2	7260.6	7252.0	7243.4	7226.1
10°	7183.0	7183.0	7174.4	7131.3	7122.6
12.5°	7045.0	7036.4	7001.9	6941.6	6924.3
15°	6855.3	6855.3	6786.3	6717.4	6691.5
17.5°	6648.4	6639.8	6553.5	6484.5	6450.1
20°	6424.2	6406.9	6320.7	6208.6	6148.2
22.5°	6174.1	6174.1	6070.6	5924.0	5863.7
25°	5941.3	5906.8	5811.9	5605.0	5449.8
27.5°	5674.0	5622.2	5518.8	5225.6	5044.5
30°	5380.8	5354.9	5208.3	4828.9	4690.9
32.5°	5104.9	5061.7	4906.5	4509.9	4397.8
35°	4820.3	4785.8	4553.0	4208.1	4104.6
37.5°	4535.7	4492.6	4199.4	3923.5	3794.1
40°	4251.2	4199.4	3880.4	3630.3	3492.3
42.5°	3983.9	3914.9	3604.4	3337.1	3181.9
45°	3699.3	3621.7	3311.3	3035.3	2914.6
47.5°	3414.7	3345.7	3061.2	2776.6	2638.7
50°	3112.9	3052.6	2793.9	2509.3	2362.7
52.5°	2862.9	2768.0	2517.9	2233.4	2112.7
55°	2569.7	2492.1	2259.2	1991.9	1888.5
57.5°	2302.4	2224.7	2009.2	1759.1	1672.9
60°	2052.3	1940.2	1759.1	1543.5	1474.5
62.5°	1776.4	1690.1	1534.9	1353.8	1440.1
65°	1526.3	1440.1	1302.1	1328.0	1103.8
67.5°	1250.3	1207.2	1086.5	965.8	931.3
70°	1017.5	965.8	922.7	793.3	758.8
72.5°	810.6	758.8	698.5	629.5	603.6
75°	612.2	569.1	534.6	508.8	560.5
77.5°	422.5	405.3	379.4	353.5	344.9
80°	275.9	267.3	258.7	250.1	241.4
82.5°	163.8	163.8	163.8	163.8	163.8
85°	86.2	94.9	103.5	112.1	120.7
87.5°	51.7	51.7	60.4	69.0	77.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)