

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: P564114

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564114
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-LD4-4STD-40-UNV-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12075.0 lumens
Efficiency: N/A
Efficacy: 90.7 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

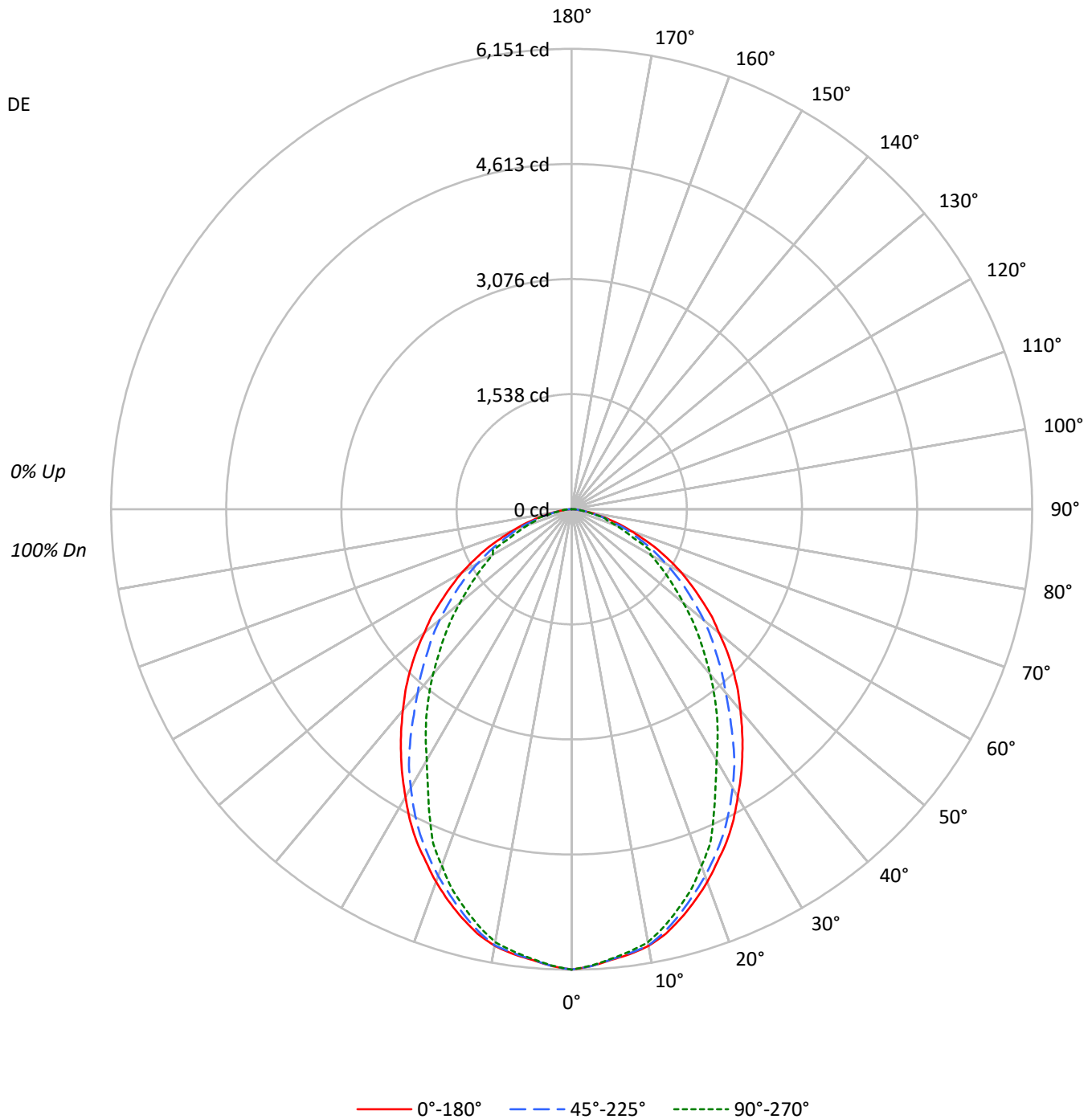
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8276	8276	8276
5°	8163	8154	8144
10°	8093	8083	8025
15°	7875	7795	7686
20°	7585	7463	7259
25°	7273	7115	6672
30°	6894	6673	6010
35°	6529	6167	5560
40°	6157	5620	5058
45°	5805	5196	4573
50°	5373	4823	4078
55°	4971	4370	3653
60°	4554	3904	3272
65°	4007	3418	2898
70°	3301	2993	2462
75°	2625	2292	2403
80°	1763	1653	1543
85°	1098	1317	1538

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5805 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	572.6	4.7
10°-20°	1571.3	13.0
20°-30°	2175.4	18.0
30°-40°	2319.6	19.2
40°-50°	2116.2	17.5
50°-60°	1657.9	13.7
60°-70°	1080.5	8.9
70°-80°	478.7	4.0
80°-90°	102.8	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°	4319.3	35.8
0°-40°	6638.9	55.0
0°-60°	10413.0	86.2
0°-90°	12075.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12075.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6151	6151	6151	6151	6151	
5°	6044	6037	6037	6030	6030	574
15°	5653	5653	5596	5539	5518	1589
25°	4899	4871	4793	4622	4494	2249
35°	3975	3946	3754	3470	3385	2485
45°	3050	2986	2730	2503	2404	2350
55°	2119	2055	1863	1643	1557	1901
65°	1259	1188	1074	1095	910	1240
75°	505	469	441	420	462	541
85°	71	78	85	92	100	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6150.8	6150.8	6150.8	6150.8	6150.8
2.5°	6108.2	6108.2	6108.2	6101.1	6101.1
5°	6044.2	6037.1	6037.1	6030.0	6030.0
7.5°	5994.4	5987.3	5980.2	5973.1	5958.9
10°	5923.3	5923.3	5916.2	5880.6	5873.5
12.5°	5809.5	5802.4	5774.0	5724.2	5710.0
15°	5653.1	5653.1	5596.2	5539.3	5518.0
17.5°	5482.4	5475.3	5404.2	5347.3	5318.9
20°	5297.5	5283.3	5212.2	5119.8	5070.0
22.5°	5091.3	5091.3	5006.0	4885.1	4835.3
25°	4899.3	4870.9	4792.7	4622.0	4494.0
27.5°	4678.9	4636.2	4550.9	4309.1	4159.8
30°	4437.1	4415.8	4294.9	3982.0	3868.3
32.5°	4209.6	4174.0	4046.0	3718.9	3626.5
35°	3974.9	3946.5	3754.5	3470.1	3384.7
37.5°	3740.3	3704.7	3463.0	3235.4	3128.8
40°	3505.6	3463.0	3199.9	2993.6	2879.9
42.5°	3285.2	3228.3	2972.3	2751.9	2623.9
45°	3050.5	2986.5	2730.5	2503.0	2403.5
47.5°	2815.9	2759.0	2524.3	2289.7	2175.9
50°	2567.0	2517.2	2303.9	2069.2	1948.4
52.5°	2360.8	2282.6	2076.4	1841.7	1742.1
55°	2119.0	2055.0	1863.0	1642.6	1557.3
57.5°	1898.6	1834.6	1656.8	1450.6	1379.5
60°	1692.4	1599.9	1450.6	1272.8	1215.9
62.5°	1464.8	1393.7	1265.7	1116.4	1187.5
65°	1258.6	1187.5	1073.7	1095.1	910.2
67.5°	1031.1	995.5	896.0	796.4	768.0
70°	839.1	796.4	760.9	654.2	625.8
72.5°	668.4	625.8	576.0	519.1	497.8
75°	504.9	469.3	440.9	419.5	462.2
77.5°	348.4	334.2	312.9	291.5	284.4
80°	227.5	220.4	213.3	206.2	199.1
82.5°	135.1	135.1	135.1	135.1	135.1
85°	71.1	78.2	85.3	92.4	99.6
87.5°	42.7	42.7	49.8	56.9	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)