

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: P564158

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564158  
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-50-UNV-80-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

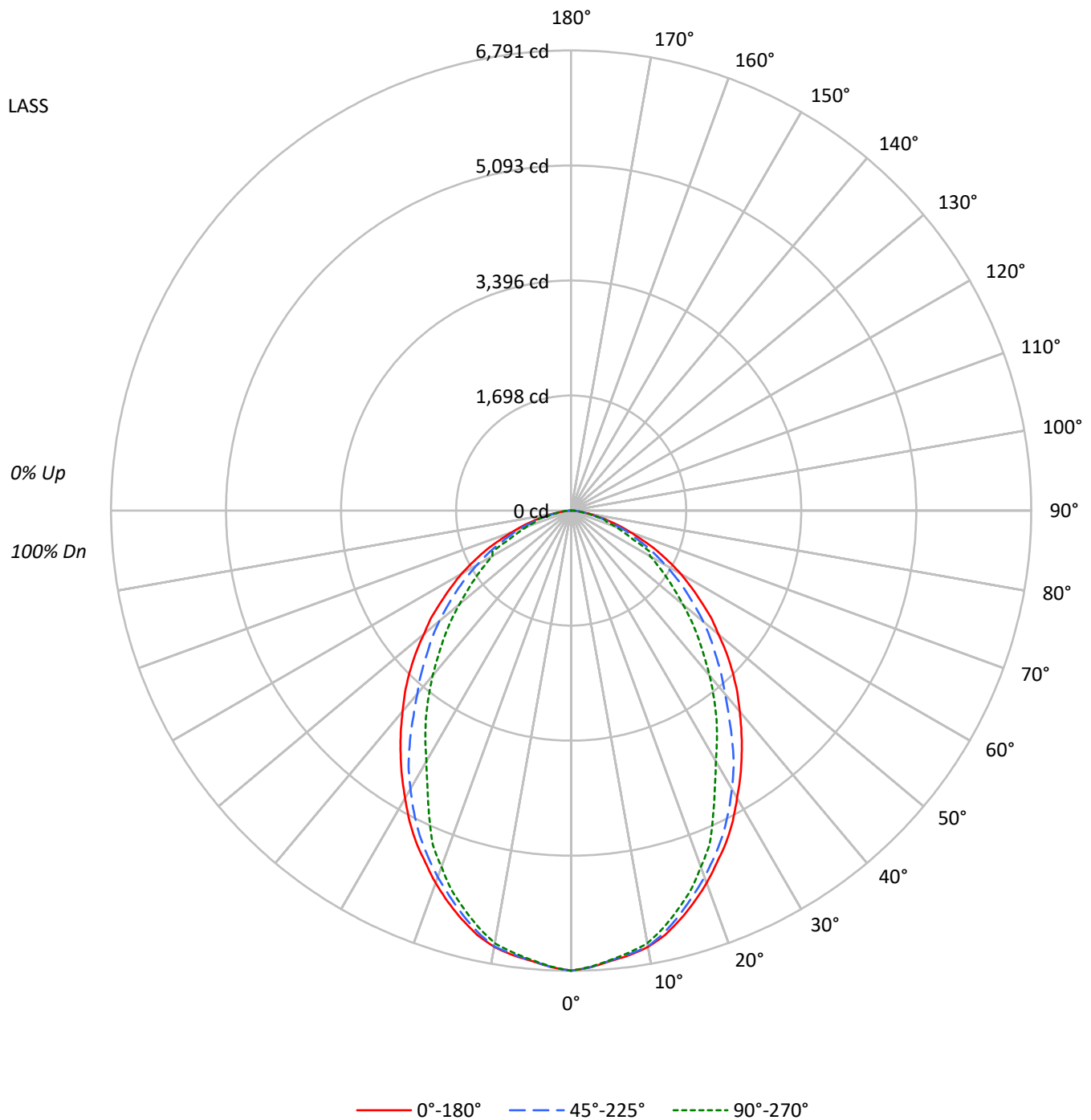
Lumens per Lamp: N/A  
Luminaire Lumens: 13331.0 lumens  
Efficiency: N/A  
Efficacy: 100.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9137	9137	9137
5°	9013	9002	8991
10°	8934	8924	8859
15°	8694	8606	8486
20°	8374	8239	8015
25°	8030	7855	7366
30°	7611	7367	6635
35°	7208	6808	6138
40°	6798	6205	5584
45°	6408	5736	5049
50°	5932	5324	4502
55°	5488	4825	4033
60°	5028	4310	3612
65°	4424	3774	3199
70°	3644	3305	2718
75°	2898	2530	2653
80°	1946	1825	1703
85°	1212	1454	1697

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6408 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	632.1	4.7
10°-20°	1734.8	13.0
20°-30°	2401.7	18.0
30°-40°	2560.9	19.2
40°-50°	2336.3	17.5
50°-60°	1830.3	13.7
60°-70°	1192.9	8.9
70°-80°	528.5	4.0
80°-90°	113.5	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°	4768.6	35.8
0°-40°	7329.5	55.0
0°-60°	11496.1	86.2
0°-90°	13331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13331.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6791	6791	6791	6791	6791	
5°	6673	6665	6665	6657	6657	633
15°	6241	6241	6178	6116	6092	1755
25°	5409	5378	5291	5103	4962	2483
35°	4388	4357	4145	3831	3737	2744
45°	3368	3297	3015	2763	2653	2594
55°	2339	2269	2057	1814	1719	2098
65°	1390	1311	1185	1209	1005	1369
75°	557	518	487	463	510	597
85°	78	86	94	102	110	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6790.6	6790.6	6790.6	6790.6	6790.6
2.5°	6743.5	6743.5	6743.5	6735.7	6735.7
5°	6672.9	6665.0	6665.0	6657.2	6657.2
7.5°	6617.9	6610.1	6602.2	6594.4	6578.7
10°	6539.4	6539.4	6531.6	6492.3	6484.5
12.5°	6413.8	6406.0	6374.6	6319.6	6303.9
15°	6241.1	6241.1	6178.3	6115.5	6091.9
17.5°	6052.7	6044.8	5966.3	5903.5	5872.1
20°	5848.6	5832.9	5754.4	5652.3	5597.4
22.5°	5620.9	5620.9	5526.7	5393.3	5338.3
25°	5409.0	5377.6	5291.2	5102.8	4961.5
27.5°	5165.6	5118.5	5024.3	4757.4	4592.5
30°	4898.7	4875.1	4741.7	4396.2	4270.6
32.5°	4647.5	4608.2	4466.9	4105.8	4003.7
35°	4388.4	4357.0	4145.0	3831.0	3736.8
37.5°	4129.3	4090.1	3823.2	3572.0	3454.2
40°	3870.3	3823.2	3532.7	3305.0	3179.4
42.5°	3626.9	3564.1	3281.5	3038.1	2896.8
45°	3367.8	3297.2	3014.6	2763.4	2653.4
47.5°	3108.8	3046.0	2786.9	2527.8	2402.2
50°	2834.0	2779.1	2543.5	2284.5	2151.0
52.5°	2606.3	2520.0	2292.3	2033.3	1923.4
55°	2339.4	2268.8	2056.8	1813.5	1719.2
57.5°	2096.1	2025.4	1829.2	1601.5	1523.0
60°	1868.4	1766.3	1601.5	1405.2	1342.4
62.5°	1617.2	1538.7	1397.4	1232.5	1311.0
65°	1389.5	1311.0	1185.4	1209.0	1004.9
67.5°	1138.3	1099.1	989.2	879.2	847.8
70°	926.4	879.2	840.0	722.2	690.8
72.5°	737.9	690.8	635.9	573.1	549.5
75°	557.4	518.1	486.7	463.2	510.3
77.5°	384.7	369.0	345.4	321.9	314.0
80°	251.2	243.4	235.5	227.7	219.8
82.5°	149.2	149.2	149.2	149.2	149.2
85°	78.5	86.4	94.2	102.1	109.9
87.5°	47.1	47.1	55.0	62.8	70.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)