

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: P563579

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563579  
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-LD4-3STD-50-UNV-80-94-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

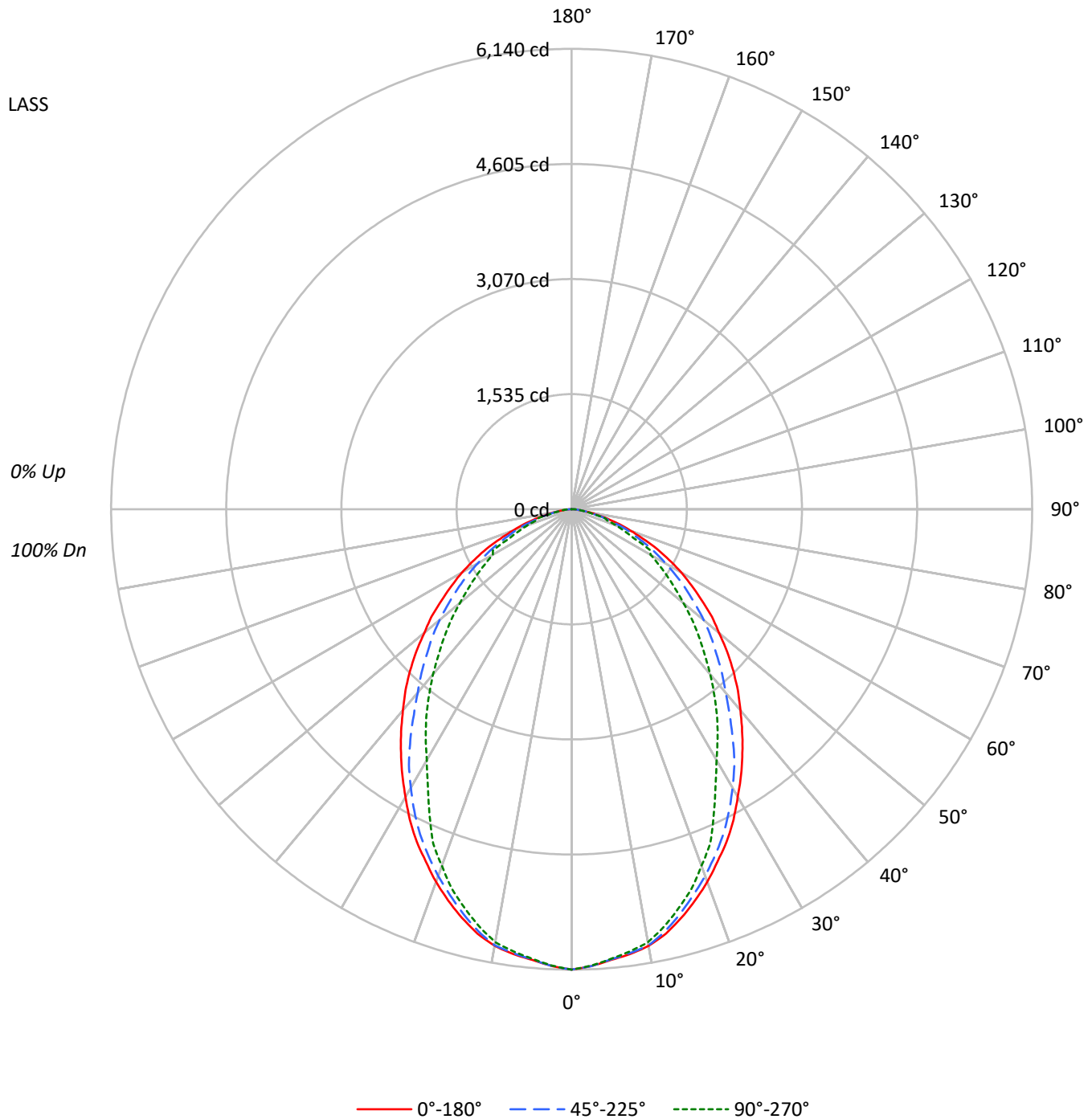
Lumens per Lamp: N/A  
Luminaire Lumens: 12053.0 lumens  
Efficiency: N/A  
Efficacy: 120.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8261	8261	8261
5°	8149	8139	8129
10°	8078	8068	8010
15°	7860	7781	7672
20°	7571	7449	7246
25°	7260	7102	6660
30°	6881	6661	5999
35°	6517	6156	5549
40°	6146	5610	5049
45°	5794	5186	4565
50°	5363	4814	4071
55°	4962	4362	3646
60°	4546	3897	3266
65°	4000	3412	2892
70°	3295	2988	2457
75°	2620	2288	2399
80°	1760	1650	1540
85°	1096	1315	1535

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5794 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	571.5	4.7
10°-20°	1568.5	13.0
20°-30°	2171.5	18.0
30°-40°	2315.4	19.2
40°-50°	2112.3	17.5
50°-60°	1654.8	13.7
60°-70°	1078.5	8.9
70°-80°	477.8	4.0
80°-90°	102.6	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°	4311.5	35.8
0°-40°	6626.9	55.0
0°-60°	10394.0	86.2
0°-90°	12053.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12053.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6140	6140	6140	6140	6140	
5°	6033	6026	6026	6019	6019	573
15°	5643	5643	5586	5529	5508	1586
25°	4890	4862	4784	4614	4486	2245
35°	3968	3939	3748	3464	3379	2481
45°	3045	2981	2726	2498	2399	2346
55°	2115	2051	1860	1640	1554	1897
65°	1256	1185	1072	1093	908	1238
75°	504	468	440	419	461	540
85°	71	78	85	92	99	98
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6139.6	6139.6	6139.6	6139.6	6139.6
2.5°	6097.1	6097.1	6097.1	6090.0	6090.0
5°	6033.2	6026.1	6026.1	6019.0	6019.0
7.5°	5983.5	5976.4	5969.3	5962.2	5948.0
10°	5912.5	5912.5	5905.4	5869.9	5862.8
12.5°	5798.9	5791.8	5763.5	5713.8	5699.6
15°	5642.8	5642.8	5586.0	5529.2	5507.9
17.5°	5472.4	5465.3	5394.4	5337.6	5309.2
20°	5287.9	5273.7	5202.7	5110.4	5060.8
22.5°	5082.1	5082.1	4996.9	4876.2	4826.5
25°	4890.4	4862.0	4783.9	4613.6	4485.8
27.5°	4670.4	4627.8	4542.6	4301.3	4152.2
30°	4429.1	4407.8	4287.1	3974.8	3861.2
32.5°	4201.9	4166.4	4038.7	3712.2	3619.9
35°	3967.7	3939.3	3747.7	3463.7	3378.6
37.5°	3733.5	3698.0	3456.7	3229.5	3123.1
40°	3499.2	3456.7	3194.0	2988.2	2874.6
42.5°	3279.2	3222.4	2966.9	2746.9	2619.1
45°	3045.0	2981.1	2725.6	2498.4	2399.1
47.5°	2810.7	2754.0	2519.7	2285.5	2171.9
50°	2562.3	2512.6	2299.7	2065.5	1944.8
52.5°	2356.5	2278.4	2072.6	1838.3	1739.0
55°	2115.2	2051.3	1859.6	1639.6	1554.4
57.5°	1895.1	1831.2	1653.8	1448.0	1377.0
60°	1689.3	1597.0	1448.0	1270.5	1213.7
62.5°	1462.2	1391.2	1263.4	1114.4	1185.3
65°	1256.3	1185.3	1071.8	1093.1	908.5
67.5°	1029.2	993.7	894.3	795.0	766.6
70°	837.5	795.0	759.5	653.0	624.6
72.5°	667.2	624.6	574.9	518.1	496.8
75°	503.9	468.5	440.1	418.8	461.4
77.5°	347.8	333.6	312.3	291.0	283.9
80°	227.1	220.0	212.9	205.8	198.7
82.5°	134.9	134.9	134.9	134.9	134.9
85°	71.0	78.1	85.2	92.3	99.4
87.5°	42.6	42.6	49.7	56.8	63.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)