

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: P563571

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563571  
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-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

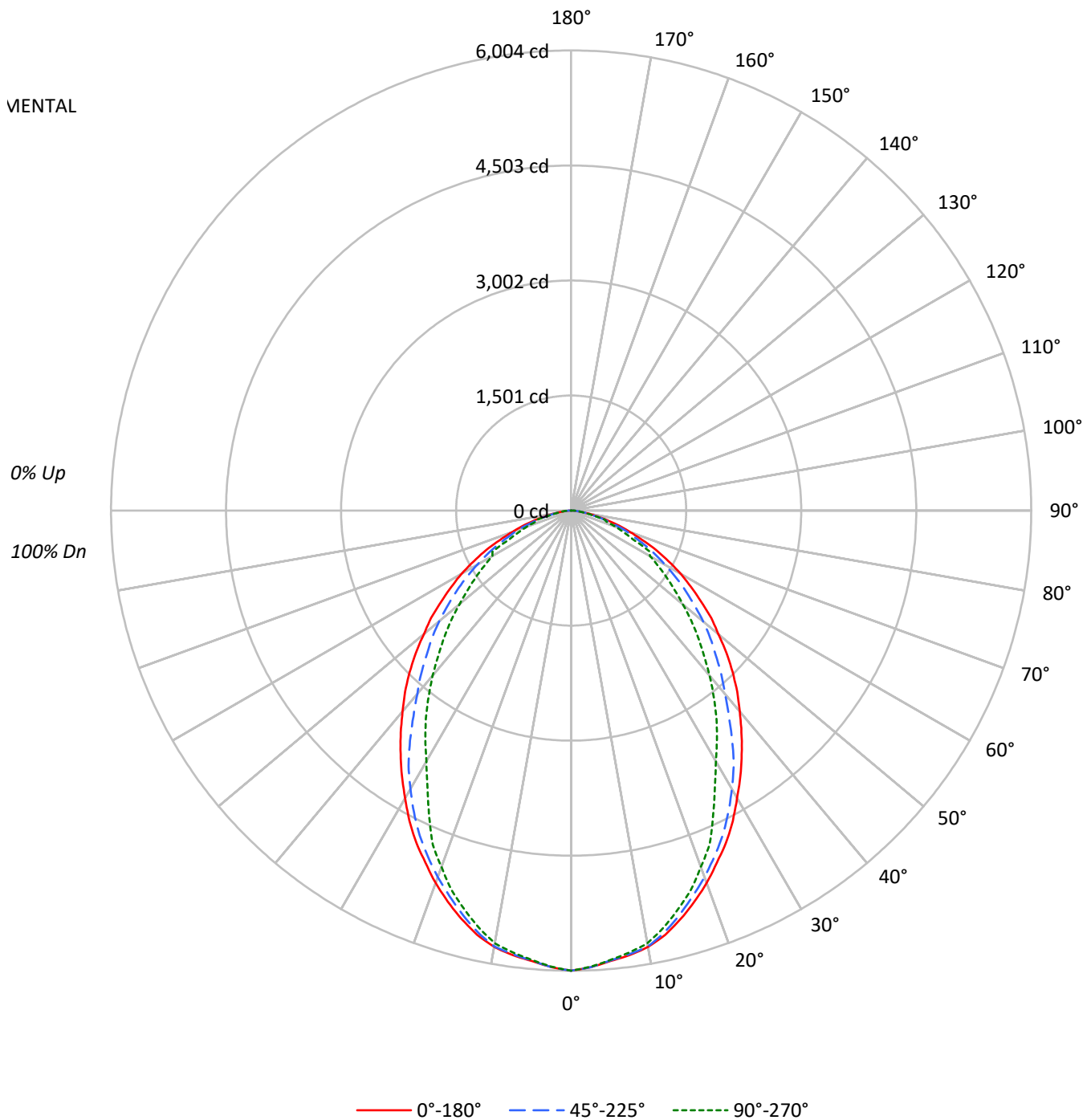
Lumens per Lamp: N/A  
Luminaire Lumens: 11786.0 lumens  
Efficiency: N/A  
Efficacy: 118.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8078	8078	8078
5°	7968	7959	7949
10°	7899	7890	7833
15°	7686	7609	7502
20°	7404	7284	7086
25°	7099	6945	6512
30°	6729	6513	5866
35°	6373	6019	5426
40°	6010	5486	4937
45°	5666	5071	4464
50°	5245	4707	3981
55°	4852	4266	3566
60°	4445	3810	3194
65°	3911	3337	2828
70°	3222	2921	2403
75°	2562	2237	2345
80°	1721	1613	1506
85°	1071	1286	1501

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5666 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	558.9	4.7
10°-20°	1533.7	13.0
20°-30°	2123.4	18.0
30°-40°	2264.1	19.2
40°-50°	2065.5	17.5
50°-60°	1618.2	13.7
60°-70°	1054.7	8.9
70°-80°	467.3	4.0
80°-90°	100.3	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°	4215.9	35.8
0°-40°	6480.1	55.0
0°-60°	10163.8	86.2
0°-90°	11786.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11786.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6004	6004	6004	6004	6004	
5°	5900	5893	5893	5886	5886	560
15°	5518	5518	5462	5407	5386	1551
25°	4782	4754	4678	4511	4386	2195
35°	3880	3852	3665	3387	3304	2426
45°	2978	2915	2665	2443	2346	2294
55°	2068	2006	1818	1603	1520	1855
65°	1228	1159	1048	1069	888	1211
75°	493	458	430	410	451	528
85°	69	76	83	90	97	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6003.6	6003.6	6003.6	6003.6	6003.6
2.5°	5962.0	5962.0	5962.0	5955.0	5955.0
5°	5899.5	5892.6	5892.6	5885.6	5885.6
7.5°	5850.9	5844.0	5837.1	5830.1	5816.2
10°	5781.5	5781.5	5774.6	5739.9	5732.9
12.5°	5670.5	5663.5	5635.8	5587.2	5573.3
15°	5517.8	5517.8	5462.3	5406.7	5385.9
17.5°	5351.2	5344.3	5274.9	5219.3	5191.6
20°	5170.8	5156.9	5087.5	4997.2	4948.7
22.5°	4969.5	4969.5	4886.2	4768.2	4719.6
25°	4782.1	4754.3	4678.0	4511.4	4386.5
27.5°	4566.9	4525.3	4442.0	4206.0	4060.3
30°	4330.9	4310.1	4192.1	3886.7	3775.7
32.5°	4108.8	4074.1	3949.2	3629.9	3539.7
35°	3879.8	3852.0	3664.6	3387.0	3303.7
37.5°	3650.8	3616.1	3380.1	3158.0	3053.9
40°	3421.7	3380.1	3123.3	2922.0	2810.9
42.5°	3206.6	3151.0	2901.2	2686.0	2561.1
45°	2977.5	2915.1	2665.2	2443.1	2345.9
47.5°	2748.5	2693.0	2463.9	2234.9	2123.8
50°	2505.6	2457.0	2248.8	2019.7	1901.7
52.5°	2304.3	2227.9	2026.7	1797.6	1700.5
55°	2068.3	2005.8	1818.4	1603.3	1520.0
57.5°	1853.1	1790.7	1617.2	1415.9	1346.5
60°	1651.9	1561.6	1415.9	1242.4	1186.8
62.5°	1429.8	1360.4	1235.4	1089.7	1159.1
65°	1228.5	1159.1	1048.0	1068.9	888.4
67.5°	1006.4	971.7	874.5	777.3	749.6
70°	819.0	777.3	742.6	638.5	610.8
72.5°	652.4	610.8	562.2	506.7	485.8
75°	492.8	458.1	430.3	409.5	451.1
77.5°	340.1	326.2	305.4	284.6	277.6
80°	222.1	215.2	208.2	201.3	194.3
82.5°	131.9	131.9	131.9	131.9	131.9
85°	69.4	76.3	83.3	90.2	97.2
87.5°	41.6	41.6	48.6	55.5	62.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)