

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: P562871

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562871  
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-LD4-2STD-35-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

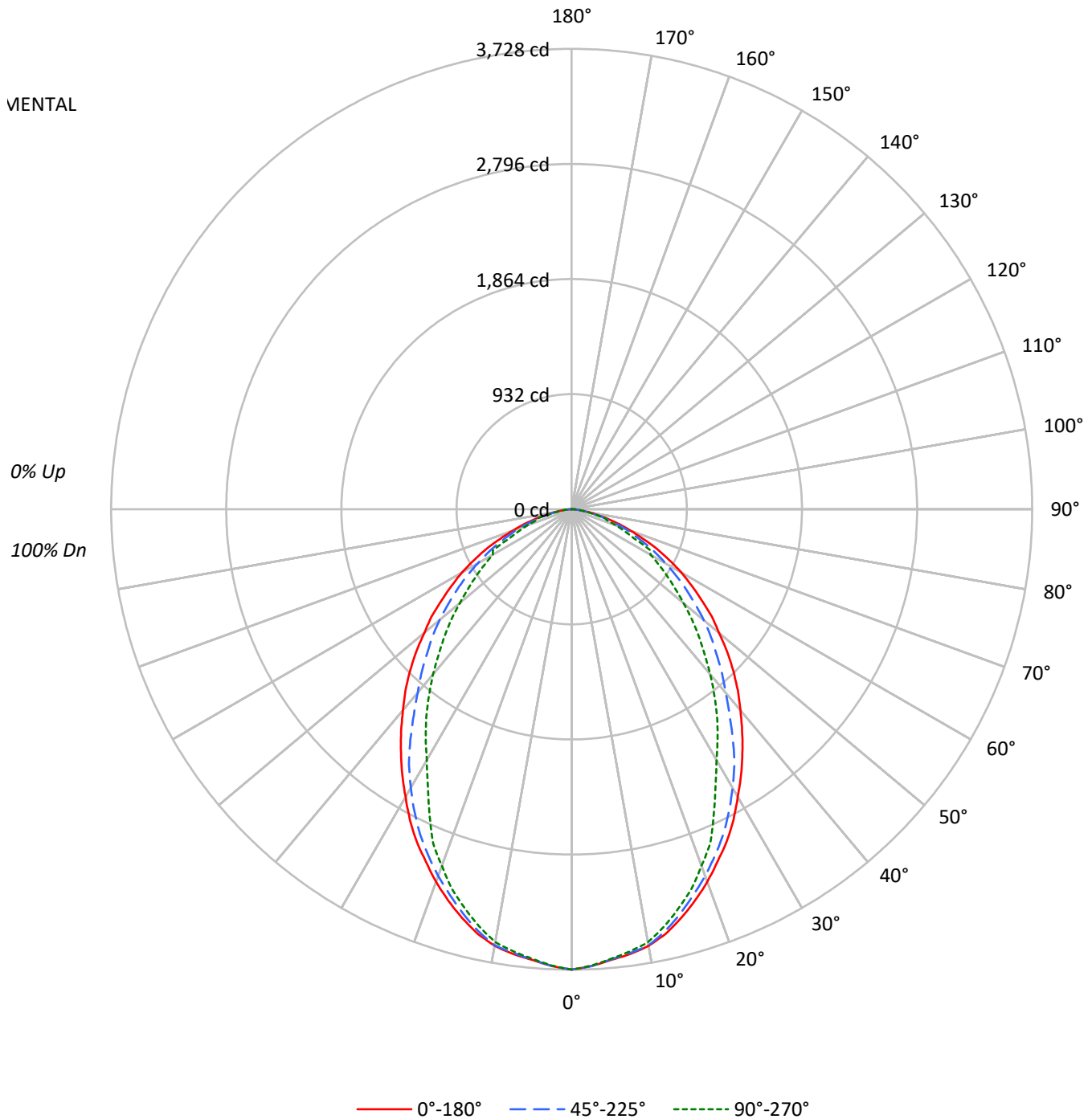
Lumens per Lamp: N/A  
Luminaire Lumens: 7318.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5016	5016	5016
5°	4947	4942	4936
10°	4905	4899	4863
15°	4772	4724	4658
20°	4597	4523	4400
25°	4408	4312	4043
30°	4178	4044	3642
35°	3957	3737	3369
40°	3732	3406	3065
45°	3518	3149	2772
50°	3256	2923	2472
55°	3012	2649	2214
60°	2760	2366	1983
65°	2429	2072	1756
70°	2000	1814	1492
75°	1591	1389	1456
80°	1068	1002	935
85°	665	798	931

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3518 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.0	4.7
10°-20°	952.3	13.0
20°-30°	1318.4	18.0
30°-40°	1405.8	19.2
40°-50°	1282.5	17.5
50°-60°	1004.7	13.7
60°-70°	654.8	8.9
70°-80°	290.1	4.0
80°-90°	62.3	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°	2617.7	35.8
0°-40°	4023.5	55.0
0°-60°	6310.8	86.2
0°-90°	7318.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7318.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3728	3728	3728	3728	3728	
5°	3663	3659	3659	3654	3654	348
15°	3426	3426	3392	3357	3344	963
25°	2969	2952	2905	2801	2724	1363
35°	2409	2392	2275	2103	2051	1506
45°	1849	1810	1655	1517	1457	1424
55°	1284	1245	1129	996	944	1152
65°	763	720	651	664	552	752
75°	306	284	267	254	280	328
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3727.7	3727.7	3727.7	3727.7	3727.7
2.5°	3701.8	3701.8	3701.8	3697.5	3697.5
5°	3663.0	3658.7	3658.7	3654.4	3654.4
7.5°	3632.9	3628.6	3624.3	3620.0	3611.3
10°	3589.8	3589.8	3585.5	3563.9	3559.6
12.5°	3520.8	3516.5	3499.3	3469.1	3460.5
15°	3426.0	3426.0	3391.6	3357.1	3344.1
17.5°	3322.6	3318.3	3275.2	3240.7	3223.5
20°	3210.6	3201.9	3158.8	3102.8	3072.7
22.5°	3085.6	3085.6	3033.9	2960.6	2930.4
25°	2969.2	2952.0	2904.6	2801.2	2723.6
27.5°	2835.6	2809.8	2758.1	2611.5	2521.0
30°	2689.1	2676.2	2602.9	2413.3	2344.4
32.5°	2551.2	2529.7	2452.1	2253.9	2197.8
35°	2409.0	2391.8	2275.4	2103.0	2051.3
37.5°	2266.8	2245.2	2098.7	1960.8	1896.2
40°	2124.6	2098.7	1939.3	1814.3	1745.3
42.5°	1991.0	1956.5	1801.4	1667.8	1590.2
45°	1848.8	1810.0	1654.8	1516.9	1456.6
47.5°	1706.6	1672.1	1529.9	1387.6	1318.7
50°	1555.7	1525.6	1396.3	1254.1	1180.8
52.5°	1430.7	1383.3	1258.4	1116.2	1055.8
55°	1284.2	1245.4	1129.1	995.5	943.8
57.5°	1150.6	1111.8	1004.1	879.1	836.0
60°	1025.7	969.6	879.1	771.4	736.9
62.5°	887.8	844.7	767.1	676.6	719.7
65°	762.8	719.7	650.7	663.7	551.6
67.5°	624.9	603.3	543.0	482.7	465.4
70°	508.5	482.7	461.1	396.5	379.2
72.5°	405.1	379.2	349.1	314.6	301.7
75°	306.0	284.4	267.2	254.3	280.1
77.5°	211.2	202.5	189.6	176.7	172.4
80°	137.9	133.6	129.3	125.0	120.7
82.5°	81.9	81.9	81.9	81.9	81.9
85°	43.1	47.4	51.7	56.0	60.3
87.5°	25.9	25.9	30.2	34.5	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)