

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: P564145

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564145  
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-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

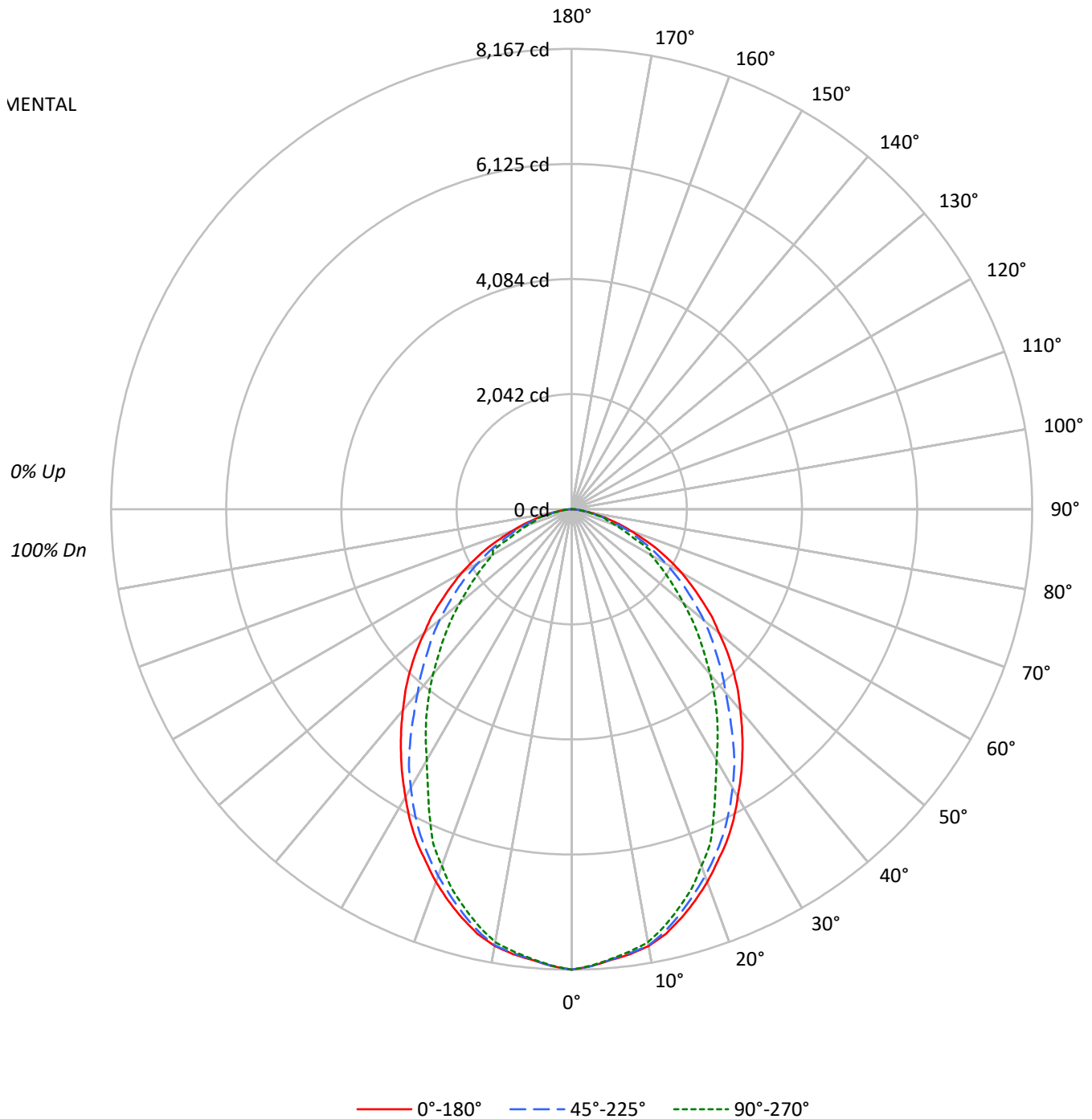
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16033.0 lumens  
Efficiency: N/A  
Efficacy: 120.4 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																												
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°	10989	10989	10989
5°	10839	10827	10814
10°	10745	10732	10655
15°	10456	10350	10206
20°	10072	9909	9639
25°	9658	9447	8859
30°	9153	8860	7980
35°	8669	8188	7382
40°	8176	7462	6716
45°	7707	6899	6072
50°	7134	6403	5415
55°	6600	5803	4850
60°	6047	5183	4345
65°	5321	4539	3848
70°	4383	3974	3269
75°	3485	3043	3190
80°	2341	2194	2049
85°	1457	1749	2041

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7707 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	760.2	4.7
10°-20°	2086.4	13.0
20°-30°	2888.5	18.0
30°-40°	3080.0	19.2
40°-50°	2809.8	17.5
50°-60°	2201.3	13.7
60°-70°	1434.7	8.9
70°-80°	635.6	4.0
80°-90°	136.5	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°	5735.1	35.8
0°-40°	8815.1	55.0
0°-60°	13826.2	86.2
0°-90°	16033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16033.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8167	8167	8167	8167	8167	
5°	8025	8016	8016	8006	8006	762
15°	7506	7506	7431	7355	7327	2110
25°	6505	6468	6364	6137	5967	2987
35°	5278	5240	4985	4608	4494	3300
45°	4050	3966	3626	3323	3191	3120
55°	2814	2729	2474	2181	2068	2524
65°	1671	1577	1426	1454	1208	1647
75°	670	623	585	557	614	718
85°	94	104	113	123	132	131
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8167.0	8167.0	8167.0	8167.0	8167.0
2.5°	8110.3	8110.3	8110.3	8100.9	8100.9
5°	8025.4	8015.9	8015.9	8006.5	8006.5
7.5°	7959.3	7949.8	7940.4	7931.0	7912.1
10°	7864.9	7864.9	7855.4	7808.2	7798.8
12.5°	7713.8	7704.4	7666.6	7600.5	7581.6
15°	7506.1	7506.1	7430.6	7355.0	7326.7
17.5°	7279.5	7270.0	7175.6	7100.1	7062.3
20°	7034.0	7015.1	6920.7	6798.0	6731.9
22.5°	6760.2	6760.2	6646.9	6486.4	6420.3
25°	6505.3	6467.5	6363.6	6137.0	5967.1
27.5°	6212.6	6155.9	6042.6	5721.6	5523.3
30°	5891.6	5863.2	5702.7	5287.3	5136.2
32.5°	5589.4	5542.2	5372.3	4938.0	4815.2
35°	5277.9	5240.1	4985.2	4607.5	4494.2
37.5°	4966.3	4919.1	4598.1	4295.9	4154.3
40°	4654.7	4598.1	4248.7	3974.9	3823.9
42.5°	4362.0	4286.5	3946.6	3653.9	3484.0
45°	4050.5	3965.5	3625.6	3323.4	3191.3
47.5°	3738.9	3663.3	3351.8	3040.2	2889.1
50°	3408.4	3342.3	3059.1	2747.5	2587.0
52.5°	3134.6	3030.8	2757.0	2445.4	2313.2
55°	2813.6	2728.6	2473.7	2181.0	2067.7
57.5°	2520.9	2435.9	2199.9	1926.1	1831.7
60°	2247.1	2124.4	1926.1	1690.0	1614.5
62.5°	1945.0	1850.6	1680.6	1482.3	1576.7
65°	1671.2	1576.7	1425.7	1454.0	1208.5
67.5°	1369.0	1321.8	1189.6	1057.5	1019.7
70°	1114.1	1057.5	1010.3	868.6	830.9
72.5°	887.5	830.9	764.8	689.2	660.9
75°	670.4	623.1	585.4	557.1	613.7
77.5°	462.6	443.8	415.4	387.1	377.7
80°	302.1	292.7	283.2	273.8	264.4
82.5°	179.4	179.4	179.4	179.4	179.4
85°	94.4	103.9	113.3	122.7	132.2
87.5°	56.6	56.6	66.1	75.5	85.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)