

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: P563063

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563063  
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-LD4-3HI-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**

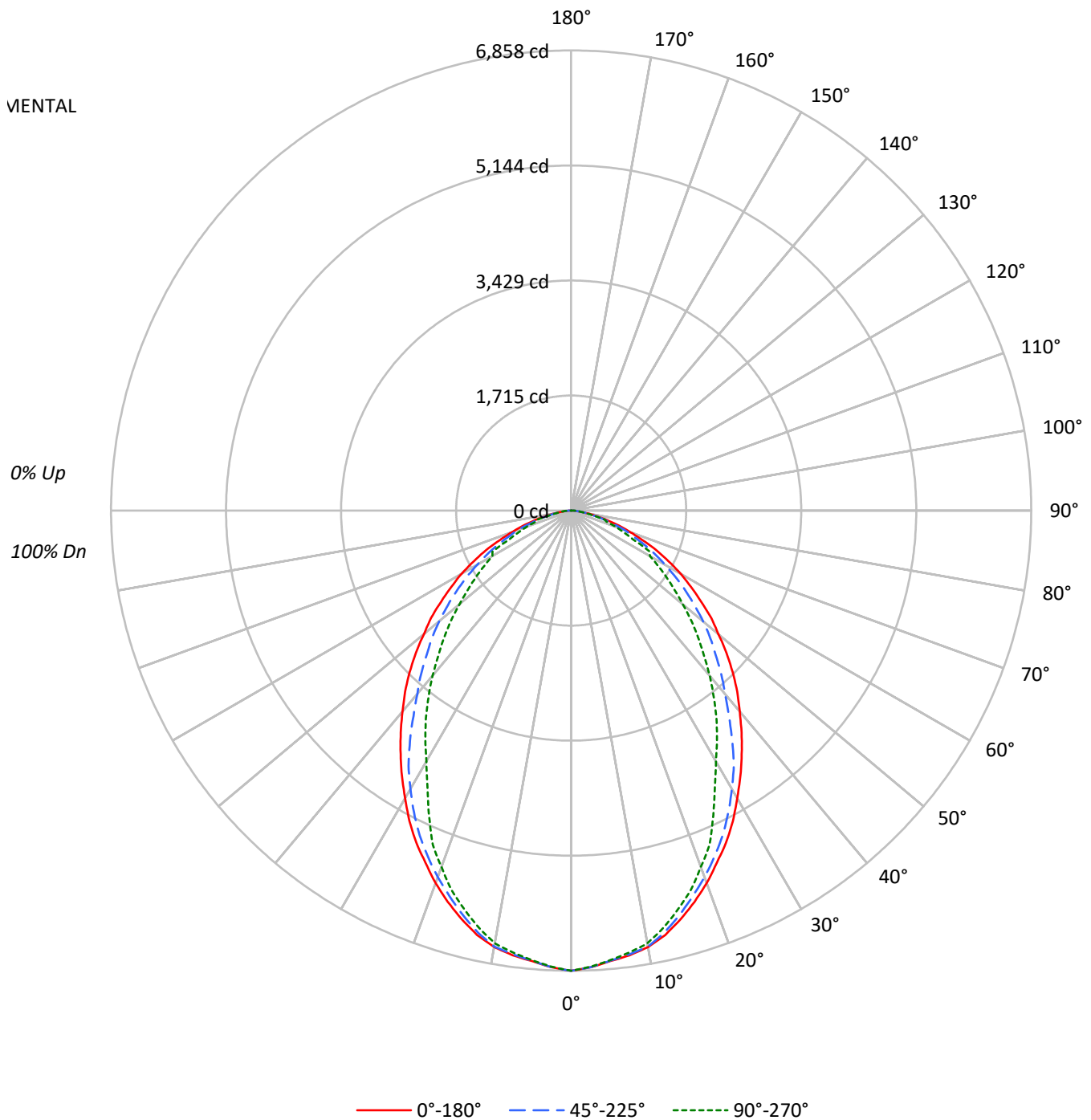
Lumens per Lamp: N/A  
Luminaire Lumens: 13464.0 lumens  
Efficiency: N/A  
Efficacy: 103.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9228	9228	9228
5°	9103	9092	9081
10°	9024	9013	8948
15°	8780	8692	8570
20°	8458	8322	8094
25°	8110	7934	7439
30°	7687	7440	6701
35°	7280	6876	6199
40°	6866	6267	5640
45°	6472	5793	5099
50°	5991	5377	4547
55°	5543	4873	4073
60°	5078	4353	3648
65°	4468	3812	3231
70°	3681	3338	2745
75°	2926	2556	2679
80°	1966	1843	1720
85°	1224	1468	1714

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6472 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	638.4	4.7
10°-20°	1752.1	13.0
20°-30°	2425.7	18.0
30°-40°	2586.5	19.2
40°-50°	2359.6	17.5
50°-60°	1848.6	13.7
60°-70°	1204.8	8.9
70°-80°	533.8	4.0
80°-90°	114.6	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°	4816.2	35.8
0°-40°	7402.6	55.0
0°-60°	11610.8	86.2
0°-90°	13464.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13464.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6858	6858	6858	6858	6858	
5°	6740	6732	6732	6724	6724	640
15°	6303	6303	6240	6176	6153	1772
25°	5463	5431	5344	5154	5011	2508
35°	4432	4400	4186	3869	3774	2771
45°	3401	3330	3045	2791	2680	2620
55°	2363	2291	2077	1832	1736	2119
65°	1403	1324	1197	1221	1015	1383
75°	563	523	492	468	515	603
85°	79	87	95	103	111	110
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6858.4	6858.4	6858.4	6858.4	6858.4
2.5°	6810.8	6810.8	6810.8	6802.9	6802.9
5°	6739.5	6731.5	6731.5	6723.6	6723.6
7.5°	6683.9	6676.0	6668.1	6660.2	6644.3
10°	6604.7	6604.7	6596.7	6557.1	6549.2
12.5°	6477.8	6469.9	6438.2	6382.7	6366.8
15°	6303.4	6303.4	6239.9	6176.5	6152.7
17.5°	6113.1	6105.1	6025.9	5962.4	5930.7
20°	5906.9	5891.1	5811.8	5708.7	5653.2
22.5°	5677.0	5677.0	5581.9	5447.1	5391.6
25°	5462.9	5431.2	5344.0	5153.7	5011.0
27.5°	5217.1	5169.6	5074.4	4804.8	4638.3
30°	4947.5	4923.8	4789.0	4440.1	4313.2
32.5°	4693.8	4654.2	4511.5	4146.7	4043.7
35°	4432.2	4400.5	4186.4	3869.2	3774.1
37.5°	4170.5	4130.9	3861.3	3607.6	3488.7
40°	3908.9	3861.3	3567.9	3338.0	3211.1
42.5°	3663.1	3599.7	3314.2	3068.4	2925.7
45°	3401.4	3330.1	3044.6	2790.9	2679.9
47.5°	3139.8	3076.4	2814.7	2553.1	2426.2
50°	2862.3	2806.8	2568.9	2307.3	2172.5
52.5°	2632.3	2545.1	2315.2	2053.6	1942.5
55°	2362.8	2291.4	2077.3	1831.5	1736.4
57.5°	2117.0	2045.6	1847.4	1617.5	1538.2
60°	1887.0	1784.0	1617.5	1419.2	1355.8
62.5°	1633.3	1554.0	1411.3	1244.8	1324.1
65°	1403.4	1324.1	1197.2	1221.0	1014.9
67.5°	1149.7	1110.0	999.0	888.0	856.3
70°	935.6	888.0	848.4	729.4	697.7
72.5°	745.3	697.7	642.2	578.8	555.0
75°	562.9	523.3	491.6	467.8	515.4
77.5°	388.5	372.7	348.9	325.1	317.2
80°	253.7	245.8	237.9	229.9	222.0
82.5°	150.6	150.6	150.6	150.6	150.6
85°	79.3	87.2	95.1	103.1	111.0
87.5°	47.6	47.6	55.5	63.4	71.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)