

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: P564149

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564149  
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-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

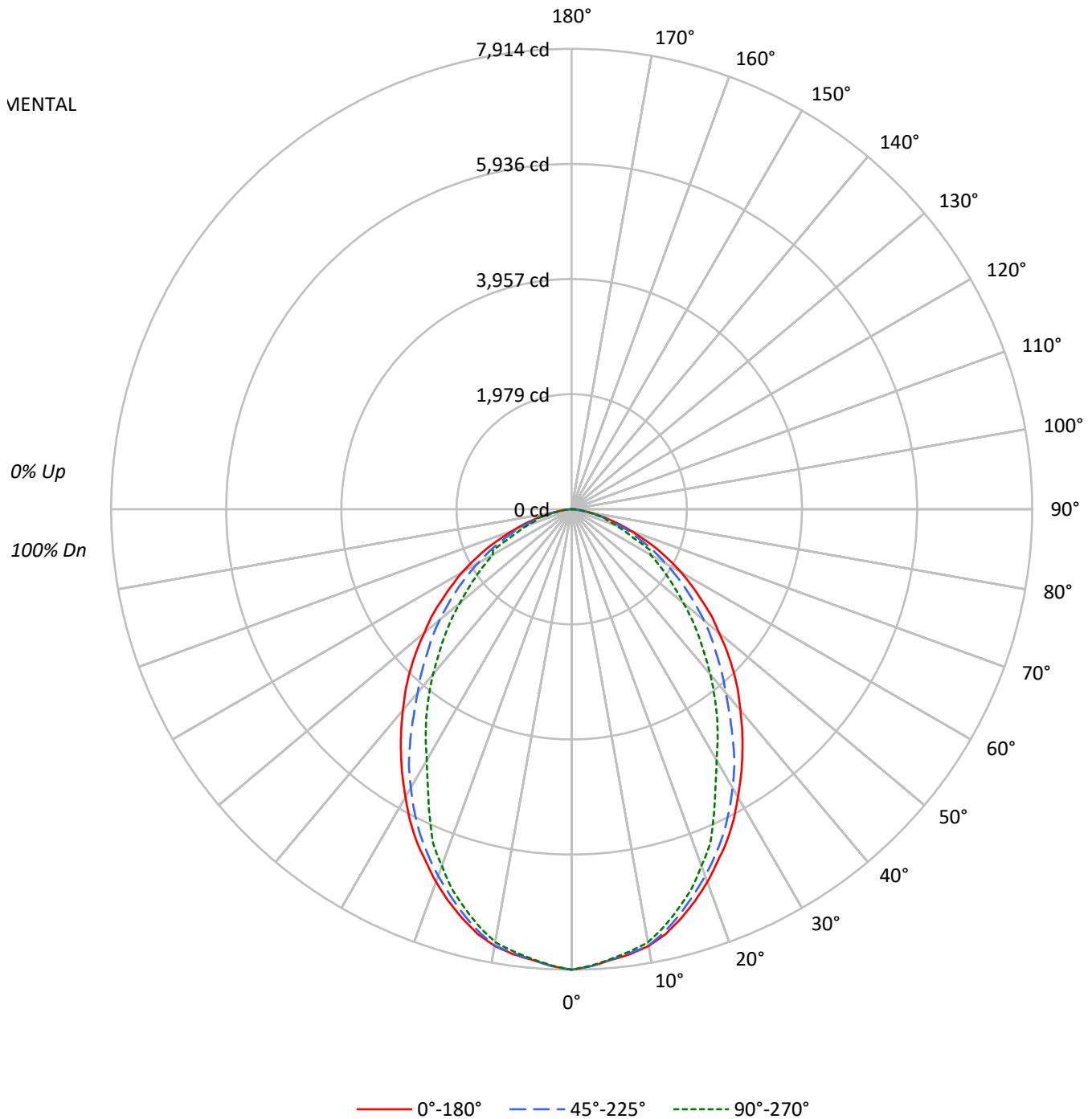
Lumens per Lamp: N/A  
Luminaire Lumens: 15537.0 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	10649	10649	10649
5°	10504	10492	10479
10°	10413	10400	10325
15°	10132	10030	9890
20°	9760	9603	9341
25°	9359	9155	8585
30°	8870	8586	7733
35°	8401	7935	7154
40°	7923	7232	6509
45°	7469	6685	5884
50°	6914	6205	5248
55°	6396	5623	4700
60°	5860	5023	4210
65°	5156	4399	3728
70°	4247	3851	3168
75°	3377	2949	3092
80°	2269	2127	1985
85°	1413	1695	1978

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7469 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	736.7	4.7
10°-20°	2021.9	13.0
20°-30°	2799.1	18.0
30°-40°	2984.7	19.2
40°-50°	2722.9	17.5
50°-60°	2133.2	13.7
60°-70°	1390.3	8.9
70°-80°	616.0	4.0
80°-90°	132.2	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°	5557.7	35.8
0°-40°	8542.4	55.0
0°-60°	13398.5	86.2
0°-90°	15537.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15537.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7914	7914	7914	7914	7914	
5°	7777	7768	7768	7759	7759	738
15°	7274	7274	7201	7128	7100	2045
25°	6304	6267	6167	5947	5782	2894
35°	5115	5078	4831	4465	4355	3198
45°	3925	3843	3513	3221	3092	3024
55°	2727	2644	2397	2114	2004	2446
65°	1620	1528	1382	1409	1171	1596
75°	650	604	567	540	595	696
85°	92	101	110	119	128	127
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7914.3	7914.3	7914.3	7914.3	7914.3
2.5°	7859.4	7859.4	7859.4	7850.3	7850.3
5°	7777.1	7767.9	7767.9	7758.8	7758.8
7.5°	7713.1	7703.9	7694.8	7685.6	7667.3
10°	7621.6	7621.6	7612.4	7566.7	7557.5
12.5°	7475.2	7466.0	7429.4	7365.4	7347.1
15°	7273.9	7273.9	7200.7	7127.5	7100.0
17.5°	7054.3	7045.1	6953.6	6880.4	6843.8
20°	6816.4	6798.1	6706.6	6587.7	6523.6
22.5°	6551.1	6551.1	6441.3	6285.7	6221.7
25°	6304.0	6267.4	6166.8	5947.2	5782.5
27.5°	6020.4	5965.5	5855.7	5544.6	5352.5
30°	5709.3	5681.9	5526.3	5123.7	4977.3
32.5°	5416.5	5370.8	5206.1	4785.2	4666.3
35°	5114.6	5078.0	4830.9	4465.0	4355.2
37.5°	4812.7	4766.9	4455.8	4163.0	4025.8
40°	4510.7	4455.8	4117.3	3852.0	3705.6
42.5°	4227.1	4153.9	3824.5	3540.9	3376.2
45°	3925.1	3842.8	3513.4	3220.6	3092.5
47.5°	3623.2	3550.0	3248.1	2946.1	2799.8
50°	3303.0	3238.9	2964.4	2662.5	2507.0
52.5°	3037.6	2937.0	2671.7	2369.7	2241.6
55°	2726.6	2644.2	2397.2	2113.5	2003.7
57.5°	2442.9	2360.6	2131.8	1866.5	1775.0
60°	2177.6	2058.6	1866.5	1637.8	1564.6
62.5°	1884.8	1793.3	1628.6	1436.5	1528.0
65°	1619.5	1528.0	1381.6	1409.0	1171.1
67.5°	1326.7	1280.9	1152.8	1024.7	988.1
70°	1079.6	1024.7	979.0	841.8	805.2
72.5°	860.1	805.2	741.1	667.9	640.5
75°	649.6	603.9	567.3	539.8	594.7
77.5°	448.3	430.0	402.6	375.1	366.0
80°	292.8	283.6	274.5	265.3	256.2
82.5°	173.8	173.8	173.8	173.8	173.8
85°	91.5	100.6	109.8	118.9	128.1
87.5°	54.9	54.9	64.0	73.2	82.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)