

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: P559126

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559126  
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-12-1-LD4-2HI-40-UNV-82-87-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

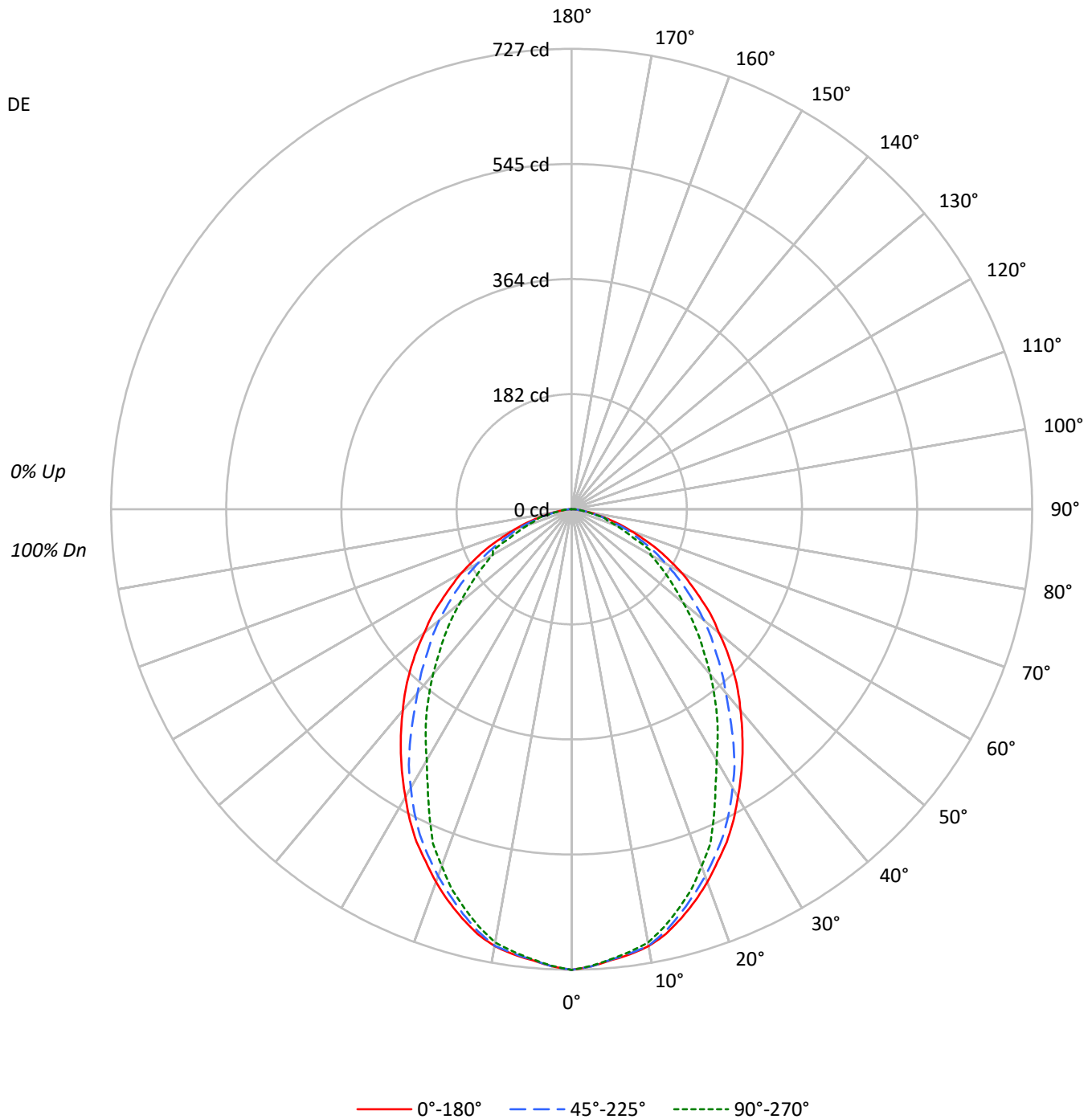
Lumens per Lamp: N/A  
Luminaire Lumens: 1428.0 lumens  
Efficiency: N/A  
Efficacy: 66.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P559126

CATALOG NUMBER: FSR-12-1-LD4-2HI-40-UNV-82-87-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P559126

CATALOG NUMBER: FSR-12-1-LD4-2HI-40-UNV-82-87-EDD-90

**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	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°	7830	7830	7830
5°	7723	7714	7705
10°	7656	7648	7592
15°	7450	7375	7272
20°	7176	7061	6868
25°	6881	6732	6312
30°	6522	6313	5686
35°	6177	5834	5260
40°	5826	5317	4786
45°	5492	4915	4326
50°	5084	4563	3858
55°	4703	4134	3457
60°	4308	3692	3096
65°	3790	3235	2741
70°	3122	2832	2329
75°	2483	2167	2275
80°	1667	1562	1457
85°	1037	1247	1457

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5492 cd/sqm



TEST NUMBER: P559126

CATALOG NUMBER: FSR-12-1-LD4-2HI-40-UNV-82-87-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.7	4.7
10°-20°	185.8	13.0
20°-30°	257.3	18.0
30°-40°	274.3	19.2
40°-50°	250.3	17.5
50°-60°	196.1	13.7
60°-70°	127.8	8.9
70°-80°	56.6	4.0
80°-90°	12.2	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°	510.8	35.8
0°-40°	785.1	55.0
0°-60°	1231.4	86.2
0°-90°	1428.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1428.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	727	727	727	727	727	
5°	715	714	714	713	713	68
15°	668	668	662	655	653	188
25°	579	576	567	547	532	266
35°	470	467	444	410	400	294
45°	361	353	323	296	284	278
55°	251	243	220	194	184	225
65°	149	140	127	130	108	147
75°	60	56	52	50	55	64
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



TEST NUMBER: P559126

CATALOG NUMBER: FSR-12-1-LD4-2HI-40-UNV-82-87-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	727.4	727.4	727.4	727.4	727.4
2.5°	722.4	722.4	722.4	721.5	721.5
5°	714.8	713.9	713.9	713.1	713.1
7.5°	708.9	708.1	707.2	706.4	704.7
10°	700.5	700.5	699.7	695.4	694.6
12.5°	687.0	686.2	682.8	676.9	675.3
15°	668.5	668.5	661.8	655.1	652.6
17.5°	648.4	647.5	639.1	632.4	629.0
20°	626.5	624.8	616.4	605.5	599.6
22.5°	602.1	602.1	592.0	577.7	571.8
25°	579.4	576.0	566.8	546.6	531.5
27.5°	553.3	548.3	538.2	509.6	491.9
30°	524.7	522.2	507.9	470.9	457.5
32.5°	497.8	493.6	478.5	439.8	428.9
35°	470.1	466.7	444.0	410.4	400.3
37.5°	442.3	438.1	409.5	382.6	370.0
40°	414.6	409.5	378.4	354.0	340.6
42.5°	388.5	381.8	351.5	325.4	310.3
45°	360.8	353.2	322.9	296.0	284.2
47.5°	333.0	326.3	298.5	270.8	257.3
50°	303.6	297.7	272.5	244.7	230.4
52.5°	279.2	269.9	245.6	217.8	206.0
55°	250.6	243.0	220.3	194.3	184.2
57.5°	224.5	217.0	195.9	171.5	163.1
60°	200.1	189.2	171.5	150.5	143.8
62.5°	173.2	164.8	149.7	132.0	140.4
65°	148.8	140.4	127.0	129.5	107.6
67.5°	121.9	117.7	106.0	94.2	90.8
70°	99.2	94.2	90.0	77.4	74.0
72.5°	79.0	74.0	68.1	61.4	58.9
75°	59.7	55.5	52.1	49.6	54.7
77.5°	41.2	39.5	37.0	34.5	33.6
80°	26.9	26.1	25.2	24.4	23.5
82.5°	16.0	16.0	16.0	16.0	16.0
85°	8.4	9.3	10.1	10.9	11.8
87.5°	5.0	5.0	5.9	6.7	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)