

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: P559127

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559127  
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  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

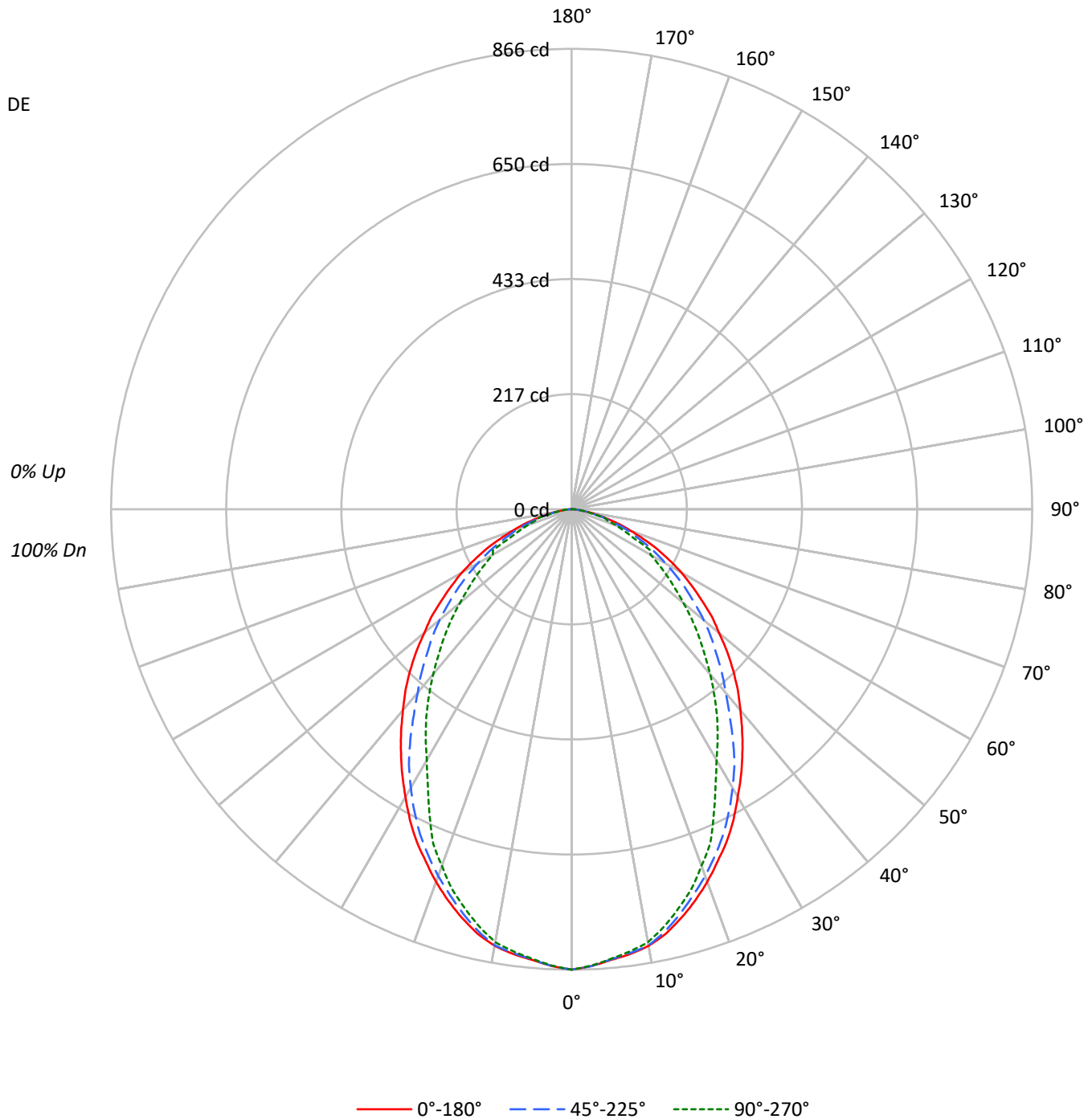
Lumens per Lamp: N/A  
Luminaire Lumens: 1700.0 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P559127

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

### Luminous Intensity Polar Plot





TEST NUMBER: P559127

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

**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°	9322	9322	9322
5°	9194	9183	9172
10°	9114	9104	9038
15°	8869	8780	8657
20°	8543	8405	8176
25°	8193	8013	7514
30°	7764	7516	6769
35°	7353	6946	6261
40°	6934	6330	5696
45°	6538	5852	5151
50°	6052	5432	4593
55°	5598	4922	4114
60°	5130	4396	3686
65°	4513	3851	3263
70°	3717	3371	2773
75°	2957	2583	2707
80°	1984	1860	1736
85°	1235	1482	1729

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6538 cd/sqm

TEST NUMBER: P559127

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

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.6	4.7
10°-20°	221.2	13.0
20°-30°	306.3	18.0
30°-40°	326.6	19.2
40°-50°	297.9	17.5
50°-60°	233.4	13.7
60°-70°	152.1	8.9
70°-80°	67.4	4.0
80°-90°	14.5	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°	608.1	35.8
0°-40°	934.7	55.0
0°-60°	1466.0	86.2
0°-90°	1700.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1700.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	851	850	850	849	849	81
15°	796	796	788	780	777	224
25°	690	686	675	651	633	317
35°	560	556	529	488	476	350
45°	430	420	384	352	338	331
55°	298	289	262	231	219	268
65°	177	167	151	154	128	175
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



TEST NUMBER: P559127

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

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	866.0	866.0	866.0	866.0	866.0
2.5°	860.0	860.0	860.0	858.9	858.9
5°	850.9	849.9	849.9	848.9	848.9
7.5°	843.9	842.9	841.9	840.9	838.9
10°	833.9	833.9	832.9	827.9	826.9
12.5°	817.9	816.9	812.9	805.9	803.9
15°	795.9	795.9	787.9	779.9	776.9
17.5°	771.9	770.9	760.8	752.8	748.8
20°	745.8	743.8	733.8	720.8	713.8
22.5°	716.8	716.8	704.8	687.8	680.8
25°	689.8	685.8	674.7	650.7	632.7
27.5°	658.7	652.7	640.7	606.7	585.6
30°	624.7	621.7	604.7	560.6	544.6
32.5°	592.7	587.6	569.6	523.6	510.6
35°	559.6	555.6	528.6	488.5	476.5
37.5°	526.6	521.6	487.5	455.5	440.5
40°	493.5	487.5	450.5	421.5	405.4
42.5°	462.5	454.5	418.5	387.4	369.4
45°	429.5	420.5	384.4	352.4	338.4
47.5°	396.4	388.4	355.4	322.4	306.3
50°	361.4	354.4	324.4	291.3	274.3
52.5°	332.4	321.4	292.3	259.3	245.3
55°	298.3	289.3	262.3	231.3	219.2
57.5°	267.3	258.3	233.3	204.2	194.2
60°	238.3	225.2	204.2	179.2	171.2
62.5°	206.2	196.2	178.2	157.2	167.2
65°	177.2	167.2	151.2	154.2	128.1
67.5°	145.2	140.2	126.1	112.1	108.1
70°	118.1	112.1	107.1	92.1	88.1
72.5°	94.1	88.1	81.1	73.1	70.1
75°	71.1	66.1	62.1	59.1	65.1
77.5°	49.1	47.1	44.0	41.0	40.0
80°	32.0	31.0	30.0	29.0	28.0
82.5°	19.0	19.0	19.0	19.0	19.0
85°	10.0	11.0	12.0	13.0	14.0
87.5°	6.0	6.0	7.0	8.0	9.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)