

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: P560464

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560464  
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-12-2-LD4-2LO-40-UNV-82-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

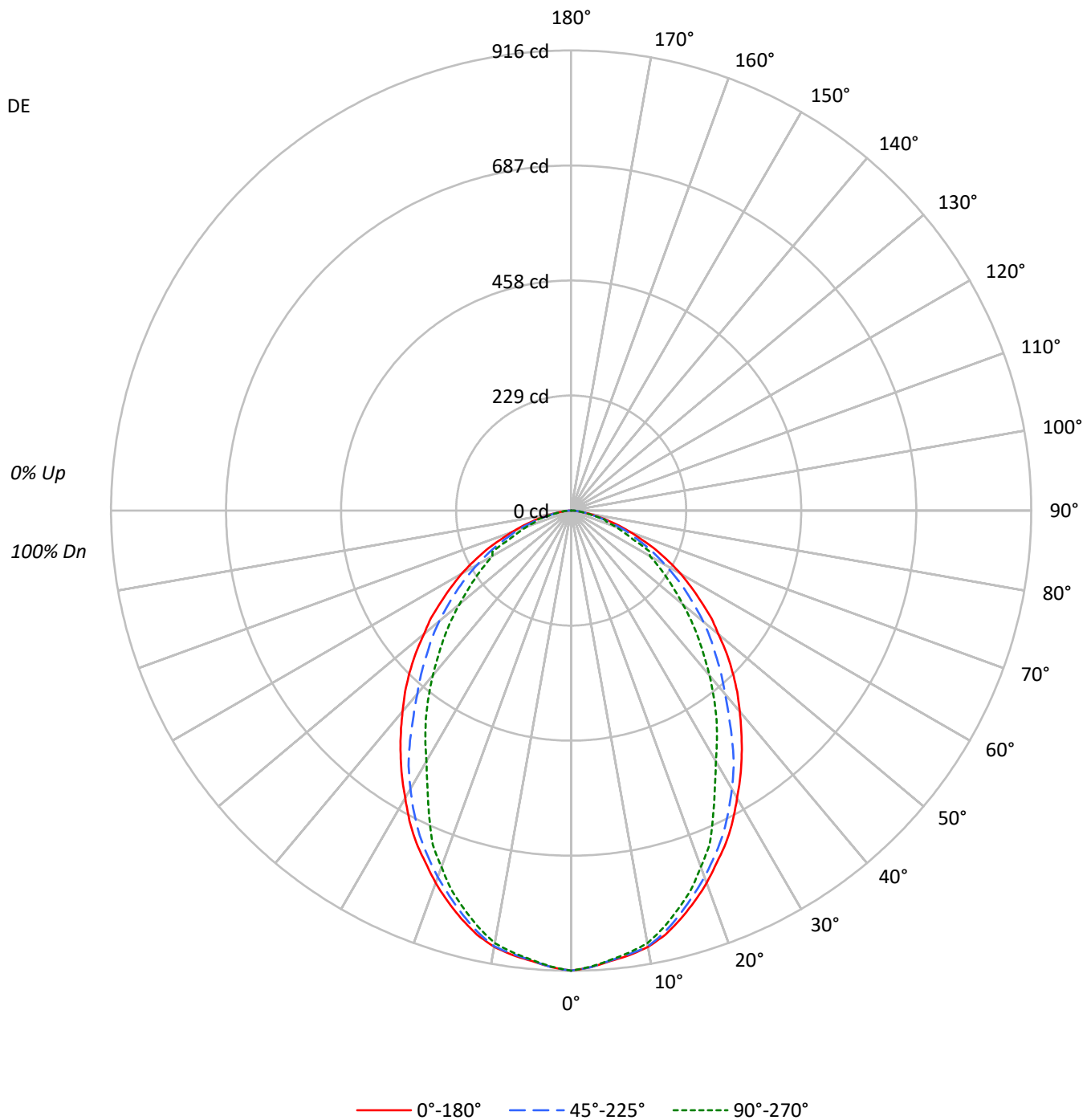
Lumens per Lamp: N/A  
Luminaire Lumens: 1798.0 lumens  
Efficiency: N/A  
Efficacy: 76.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4929	4929	4929
5°	4862	4856	4851
10°	4820	4814	4780
15°	4690	4643	4578
20°	4518	4445	4324
25°	4332	4238	3974
30°	4106	3974	3580
35°	3889	3673	3311
40°	3667	3348	3013
45°	3457	3095	2724
50°	3200	2873	2429
55°	2960	2603	2176
60°	2713	2325	1949
65°	2387	2036	1726
70°	1965	1783	1467
75°	1564	1364	1431
80°	1051	986	917
85°	655	784	914

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3457 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.3	4.7
10°-20°	234.0	13.0
20°-30°	323.9	18.0
30°-40°	345.4	19.2
40°-50°	315.1	17.5
50°-60°	246.9	13.7
60°-70°	160.9	8.9
70°-80°	71.3	4.0
80°-90°	15.3	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
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0°-30°	643.1	35.8
0°-40°	988.5	55.0
0°-60°	1550.5	86.2
0°-90°	1798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1798.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	900	899	899	898	898	85
15°	842	842	833	825	822	237
25°	730	725	714	688	669	335
35°	592	588	559	517	504	370
45°	454	445	407	373	358	350
55°	316	306	277	245	232	283
65°	187	177	160	163	136	185
75°	75	70	66	62	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	915.9	915.9	915.9	915.9	915.9
2.5°	909.5	909.5	909.5	908.5	908.5
5°	900.0	898.9	898.9	897.9	897.9
7.5°	892.6	891.5	890.5	889.4	887.3
10°	882.0	882.0	880.9	875.6	874.6
12.5°	865.1	864.0	859.8	852.3	850.2
15°	841.8	841.8	833.3	824.8	821.6
17.5°	816.3	815.3	804.7	796.2	792.0
20°	788.8	786.7	776.1	762.3	754.9
22.5°	758.1	758.1	745.4	727.4	720.0
25°	729.5	725.3	713.6	688.2	669.2
27.5°	696.7	690.3	677.6	641.6	619.4
30°	660.7	657.5	639.5	592.9	576.0
32.5°	626.8	621.5	602.5	553.8	540.0
35°	591.9	587.6	559.1	516.7	504.0
37.5°	556.9	551.6	515.6	481.8	465.9
40°	522.0	515.6	476.5	445.8	428.8
42.5°	489.2	480.7	442.6	409.8	390.7
45°	454.2	444.7	406.6	372.7	357.9
47.5°	419.3	410.8	375.9	340.9	324.0
50°	382.2	374.8	343.1	308.1	290.1
52.5°	351.5	339.9	309.2	274.2	259.4
55°	315.5	306.0	277.4	244.6	231.9
57.5°	282.7	273.2	246.7	216.0	205.4
60°	252.0	238.2	216.0	189.5	181.1
62.5°	218.1	207.5	188.5	166.2	176.8
65°	187.4	176.8	159.9	163.1	135.5
67.5°	153.5	148.2	133.4	118.6	114.4
70°	124.9	118.6	113.3	97.4	93.2
72.5°	99.5	93.2	85.8	77.3	74.1
75°	75.2	69.9	65.6	62.5	68.8
77.5°	51.9	49.8	46.6	43.4	42.4
80°	33.9	32.8	31.8	30.7	29.6
82.5°	20.1	20.1	20.1	20.1	20.1
85°	10.6	11.6	12.7	13.8	14.8
87.5°	6.4	6.4	7.4	8.5	9.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)