

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: P560408

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560408  
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-35-UNV-82-88-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

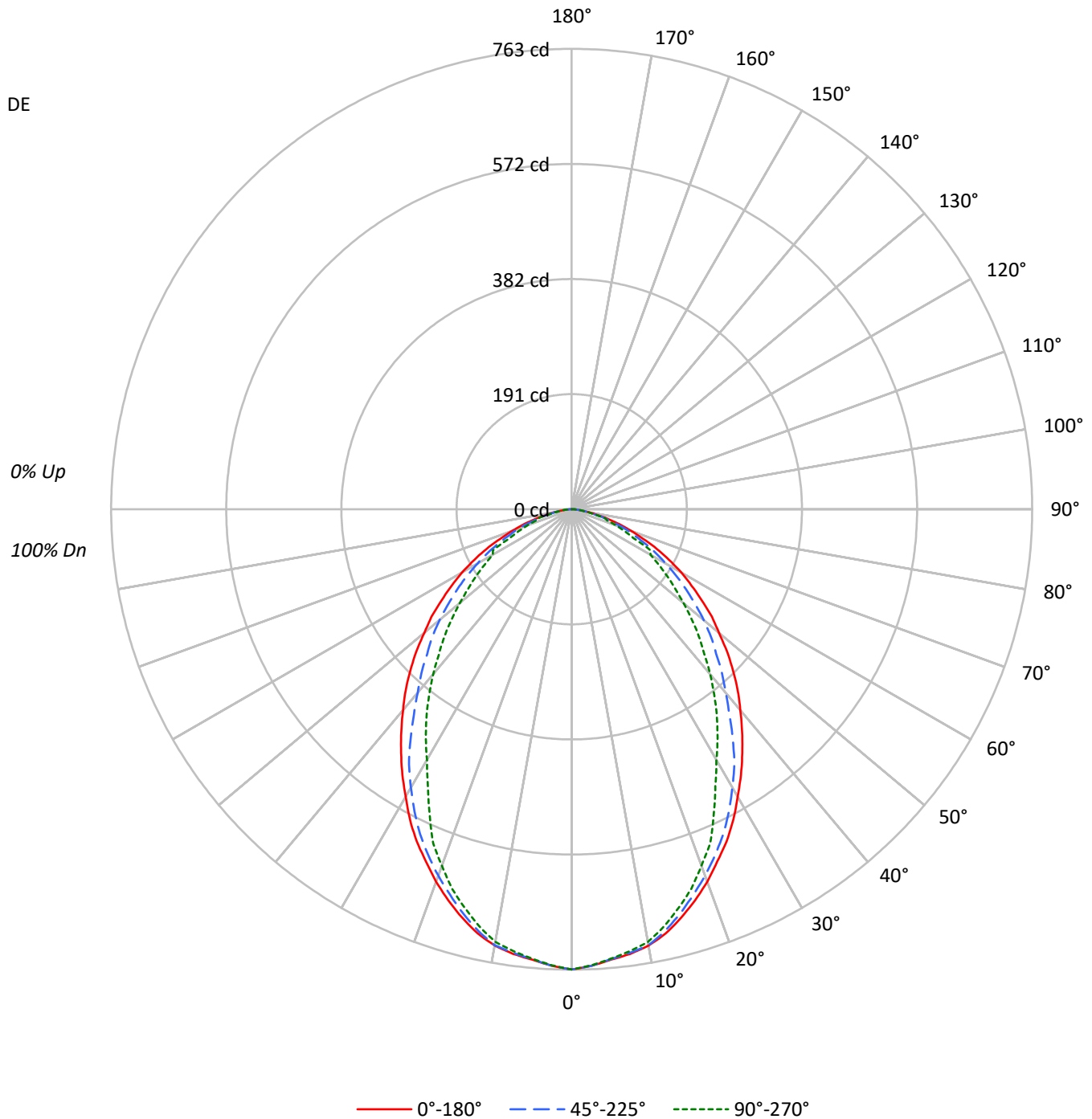
Lumens per Lamp: N/A  
Luminaire Lumens: 1497.0 lumens  
Efficiency: N/A  
Efficacy: 64.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4104	4104	4104
5°	4048	4043	4039
10°	4013	4009	3980
15°	3905	3866	3812
20°	3762	3701	3600
25°	3607	3529	3308
30°	3419	3309	2980
35°	3238	3058	2757
40°	3053	2787	2508
45°	2879	2576	2268
50°	2664	2391	2022
55°	2465	2168	1812
60°	2258	1935	1622
65°	1987	1695	1436
70°	1637	1484	1221
75°	1302	1137	1192
80°	874	818	766
85°	543	655	760

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2879 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.0	4.7
10°-20°	194.8	13.0
20°-30°	269.7	18.0
30°-40°	287.6	19.2
40°-50°	262.4	17.5
50°-60°	205.5	13.7
60°-70°	133.9	8.9
70°-80°	59.4	4.0
80°-90°	12.7	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°	535.5	35.8
0°-40°	823.1	55.0
0°-60°	1291.0	86.2
0°-90°	1497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	763	763	763	763	763	
5°	749	748	748	748	748	71
15°	701	701	694	687	684	197
25°	607	604	594	573	557	279
35°	493	489	466	430	420	308
45°	378	370	338	310	298	291
55°	263	255	231	204	193	236
65°	156	147	133	136	113	154
75°	63	58	55	52	57	67
85°	9	10	11	12	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	762.6	762.6	762.6	762.6	762.6
2.5°	757.3	757.3	757.3	756.4	756.4
5°	749.3	748.4	748.4	747.6	747.6
7.5°	743.2	742.3	741.4	740.5	738.7
10°	734.3	734.3	733.5	729.1	728.2
12.5°	720.2	719.4	715.8	709.7	707.9
15°	700.8	700.8	693.8	686.7	684.1
17.5°	679.7	678.8	670.0	662.9	659.4
20°	656.8	655.0	646.2	634.7	628.6
22.5°	631.2	631.2	620.6	605.6	599.5
25°	607.4	603.9	594.2	573.0	557.1
27.5°	580.1	574.8	564.2	534.2	515.7
30°	550.1	547.5	532.5	493.7	479.6
32.5°	521.9	517.5	501.6	461.1	449.6
35°	492.8	489.3	465.5	430.2	419.6
37.5°	463.7	459.3	429.3	401.1	387.9
40°	434.6	429.3	396.7	371.1	357.0
42.5°	407.3	400.2	368.5	341.2	325.3
45°	378.2	370.3	338.5	310.3	298.0
47.5°	349.1	342.0	313.0	283.9	269.8
50°	318.2	312.1	285.6	256.5	241.5
52.5°	292.7	283.0	257.4	228.3	216.0
55°	262.7	254.8	231.0	203.6	193.1
57.5°	235.4	227.4	205.4	179.8	171.0
60°	209.8	198.4	179.8	157.8	150.7
62.5°	181.6	172.8	156.9	138.4	147.2
65°	156.0	147.2	133.1	135.8	112.8
67.5°	127.8	123.4	111.1	98.7	95.2
70°	104.0	98.7	94.3	81.1	77.6
72.5°	82.9	77.6	71.4	64.4	61.7
75°	62.6	58.2	54.7	52.0	57.3
77.5°	43.2	41.4	38.8	36.1	35.3
80°	28.2	27.3	26.4	25.6	24.7
82.5°	16.7	16.7	16.7	16.7	16.7
85°	8.8	9.7	10.6	11.5	12.3
87.5°	5.3	5.3	6.2	7.1	7.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)