

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: P559632

Luminaire Tested: FSR-12-2-LD4-1HI-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559632  
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-LD4-1HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

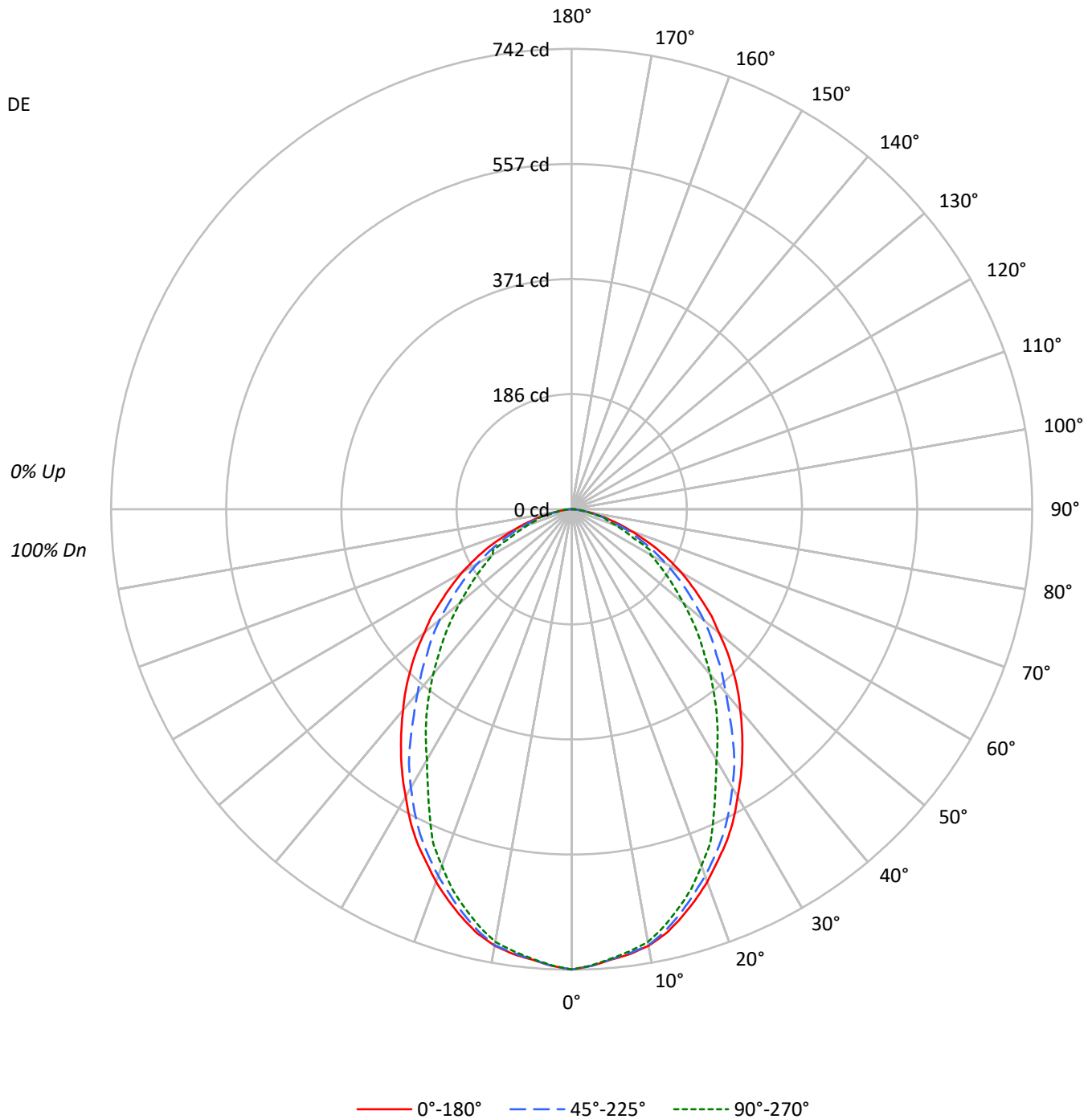
Lumens per Lamp: N/A  
Luminaire Lumens: 1456.0 lumens  
Efficiency: N/A  
Efficacy: 67.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	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°	3992	3992	3992
5°	3937	3932	3928
10°	3903	3899	3870
15°	3798	3760	3707
20°	3659	3600	3501
25°	3508	3432	3218
30°	3325	3219	2898
35°	3149	2974	2681
40°	2970	2710	2440
45°	2799	2506	2206
50°	2591	2326	1967
55°	2397	2107	1762
60°	2197	1883	1578
65°	1933	1649	1397
70°	1592	1443	1188
75°	1266	1106	1158
80°	849	797	744
85°	531	636	741

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2799 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	4.7
10°-20°	189.5	13.0
20°-30°	262.3	18.0
30°-40°	279.7	19.2
40°-50°	255.2	17.5
50°-60°	199.9	13.7
60°-70°	130.3	8.9
70°-80°	57.7	4.0
80°-90°	12.4	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°	520.8	35.8
0°-40°	800.5	55.0
0°-60°	1255.6	86.2
0°-90°	1456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1456.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	742	742	742	742	742	
5°	729	728	728	727	727	69
15°	682	682	675	668	665	192
25°	591	587	578	557	542	271
35°	479	476	453	418	408	300
45°	368	360	329	302	290	283
55°	256	248	225	198	188	229
65°	152	143	130	132	110	150
75°	61	57	53	51	56	65
85°	9	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	741.7	741.7	741.7	741.7	741.7
2.5°	736.5	736.5	736.5	735.7	735.7
5°	728.8	727.9	727.9	727.1	727.1
7.5°	722.8	721.9	721.1	720.2	718.5
10°	714.2	714.2	713.4	709.1	708.2
12.5°	700.5	699.7	696.2	690.2	688.5
15°	681.6	681.6	674.8	667.9	665.4
17.5°	661.1	660.2	651.6	644.8	641.3
20°	638.8	637.1	628.5	617.3	611.3
22.5°	613.9	613.9	603.6	589.0	583.0
25°	590.8	587.3	577.9	557.3	541.9
27.5°	564.2	559.0	548.7	519.6	501.6
30°	535.0	532.5	517.9	480.2	466.4
32.5°	507.6	503.3	487.9	448.4	437.3
35°	479.3	475.9	452.7	418.4	408.1
37.5°	451.0	446.7	417.6	390.1	377.3
40°	422.7	417.6	385.8	361.0	347.3
42.5°	396.1	389.3	358.4	331.8	316.4
45°	367.8	360.1	329.2	301.8	289.8
47.5°	339.5	332.7	304.4	276.1	262.4
50°	309.5	303.5	277.8	249.5	234.9
52.5°	284.7	275.2	250.4	222.1	210.1
55°	255.5	247.8	224.6	198.1	187.8
57.5°	228.9	221.2	199.8	174.9	166.3
60°	204.1	192.9	174.9	153.5	146.6
62.5°	176.6	168.1	152.6	134.6	143.2
65°	151.8	143.2	129.5	132.0	109.7
67.5°	124.3	120.0	108.0	96.0	92.6
70°	101.2	96.0	91.7	78.9	75.5
72.5°	80.6	75.5	69.5	62.6	60.0
75°	60.9	56.6	53.2	50.6	55.7
77.5°	42.0	40.3	37.7	35.2	34.3
80°	27.4	26.6	25.7	24.9	24.0
82.5°	16.3	16.3	16.3	16.3	16.3
85°	8.6	9.4	10.3	11.1	12.0
87.5°	5.1	5.1	6.0	6.9	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)