

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: P560390

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560390  
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-81-87-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

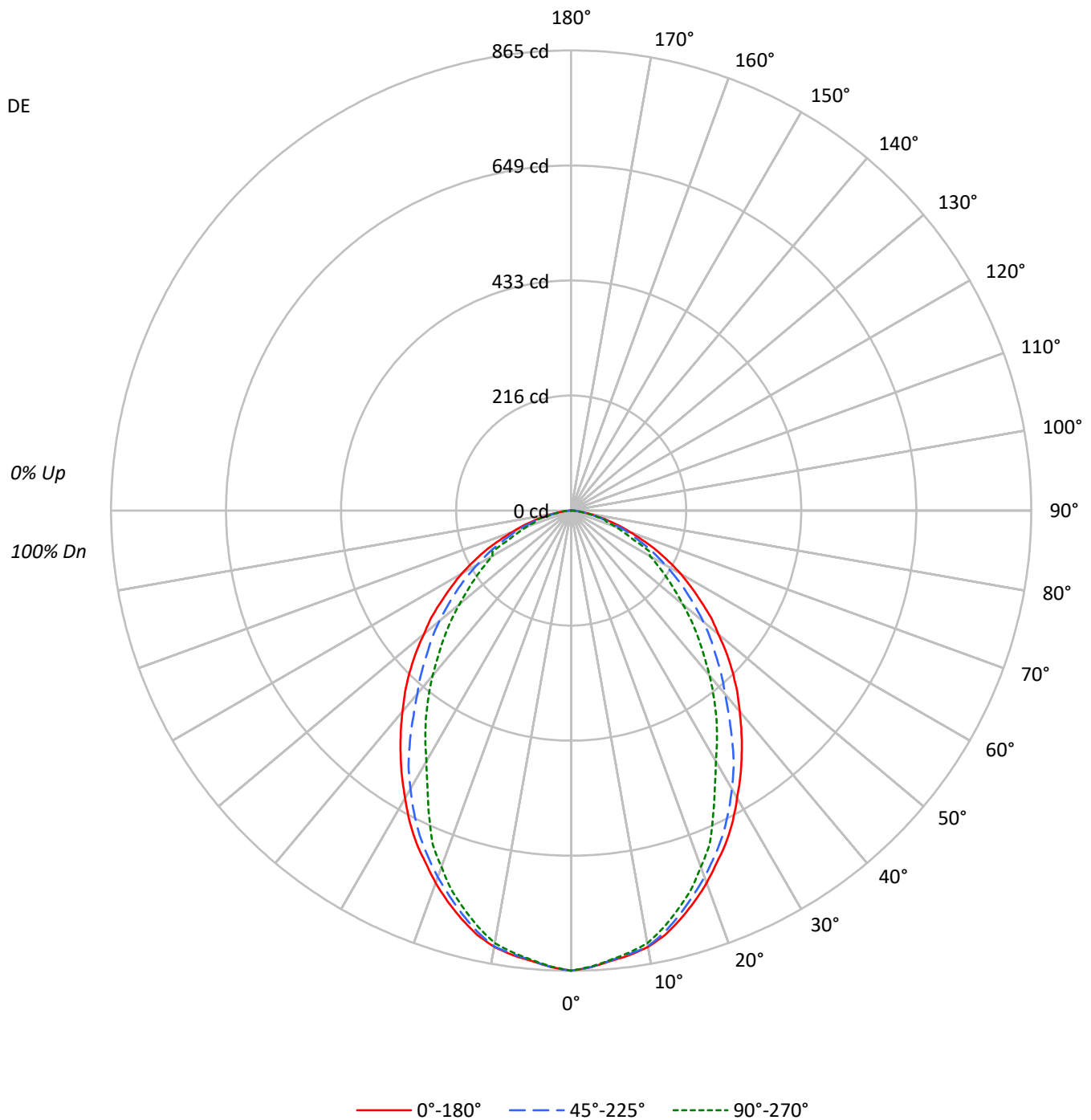
Lumens per Lamp: N/A  
Luminaire Lumens: 1698.1 lumens  
Efficiency: N/A  
Efficacy: 72.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4655	4655	4655
5°	4592	4586	4581
10°	4552	4546	4514
15°	4429	4384	4323
20°	4266	4198	4083
25°	4092	4002	3753
30°	3878	3754	3381
35°	3673	3469	3127
40°	3464	3162	2845
45°	3265	2923	2573
50°	3023	2713	2294
55°	2796	2458	2055
60°	2562	2196	1841
65°	2254	1923	1630
70°	1857	1684	1385
75°	1476	1289	1352
80°	992	930	868
85°	618	741	865

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3265 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.5	4.7
10°-20°	221.0	13.0
20°-30°	305.9	18.0
30°-40°	326.2	19.2
40°-50°	297.6	17.5
50°-60°	233.1	13.7
60°-70°	152.0	8.9
70°-80°	67.3	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°	607.4	35.8
0°-40°	933.6	55.0
0°-60°	1464.3	86.2
0°-90°	1698.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1698.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	865	865	865	865	865	
5°	850	849	849	848	848	81
15°	795	795	787	779	776	223
25°	689	685	674	650	632	316
35°	559	555	528	488	476	349
45°	429	420	384	352	338	330
55°	298	289	262	231	219	267
65°	177	167	151	154	128	174
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	864.9	864.9	864.9	864.9	864.9
2.5°	858.9	858.9	858.9	857.9	857.9
5°	849.9	848.9	848.9	847.9	847.9
7.5°	842.9	841.9	840.9	839.9	837.9
10°	832.9	832.9	831.9	826.9	825.9
12.5°	816.9	815.9	811.9	804.9	802.9
15°	794.9	794.9	786.9	778.9	775.9
17.5°	770.9	769.9	759.9	751.9	747.9
20°	744.9	742.9	732.9	719.9	712.9
22.5°	715.9	715.9	703.9	687.0	680.0
25°	689.0	685.0	674.0	650.0	632.0
27.5°	658.0	652.0	640.0	606.0	585.0
30°	624.0	621.0	604.0	560.0	544.0
32.5°	592.0	587.0	569.0	523.0	510.0
35°	559.0	555.0	528.0	488.0	476.0
37.5°	526.0	521.0	487.0	455.0	440.0
40°	493.0	487.0	450.0	421.0	405.0
42.5°	462.0	454.0	418.0	387.0	369.0
45°	429.0	420.0	384.0	352.0	338.0
47.5°	396.0	388.0	355.0	322.0	306.0
50°	361.0	354.0	324.0	291.0	274.0
52.5°	332.0	321.0	292.0	259.0	245.0
55°	298.0	289.0	262.0	231.0	219.0
57.5°	267.0	258.0	233.0	204.0	194.0
60°	238.0	225.0	204.0	179.0	171.0
62.5°	206.0	196.0	178.0	157.0	167.0
65°	177.0	167.0	151.0	154.0	128.0
67.5°	145.0	140.0	126.0	112.0	108.0
70°	118.0	112.0	107.0	92.0	88.0
72.5°	94.0	88.0	81.0	73.0	70.0
75°	71.0	66.0	62.0	59.0	65.0
77.5°	49.0	47.0	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)