

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: P559431

Luminaire Tested: FSR-12-1-LD4-2STD-35-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559431  
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-LD4-2STD-35-UNV-81-87-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

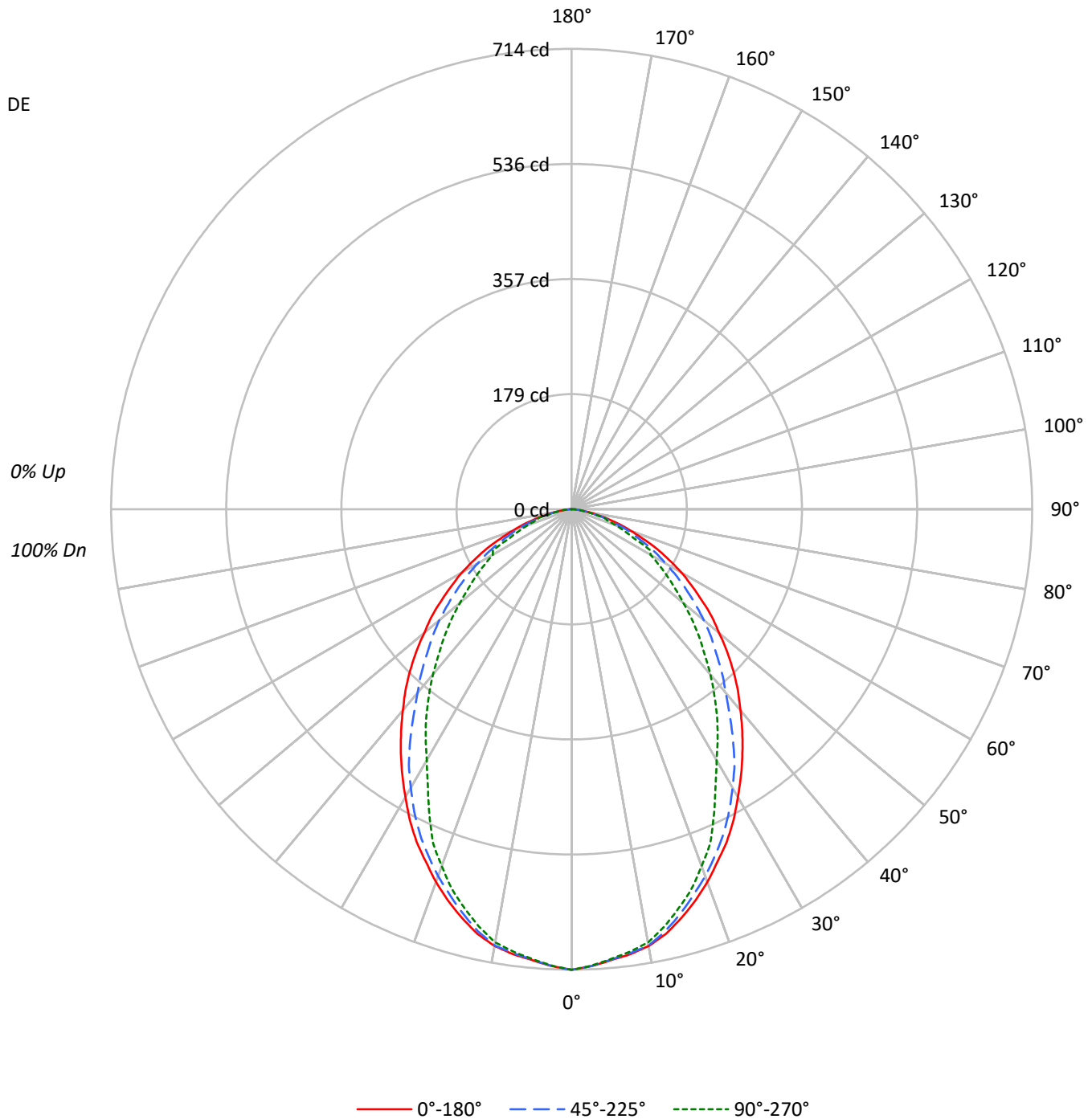
Lumens per Lamp: N/A  
Luminaire Lumens: 1402.0 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7688	7688	7688
5°	7583	7574	7565
10°	7517	7508	7454
15°	7315	7241	7140
20°	7046	6932	6743
25°	6757	6609	6197
30°	6403	6198	5582
35°	6064	5728	5164
40°	5719	5220	4699
45°	5392	4826	4249
50°	4990	4479	3788
55°	4617	4059	3393
60°	4230	3625	3040
65°	3721	3176	2692
70°	3065	2779	2288
75°	2437	2129	2233
80°	1636	1537	1432
85°	1025	1223	1433

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5392 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	4.7
10°-20°	182.4	13.0
20°-30°	252.6	18.0
30°-40°	269.3	19.2
40°-50°	245.7	17.5
50°-60°	192.5	13.7
60°-70°	125.5	8.9
70°-80°	55.6	4.0
80°-90°	11.9	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°	501.5	35.8
0°-40°	770.8	55.0
0°-60°	1209.0	86.2
0°-90°	1402.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1402.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	714	714	714	714	714	
5°	702	701	701	700	700	67
15°	656	656	650	643	641	185
25°	569	566	556	537	522	261
35°	462	458	436	403	393	289
45°	354	347	317	291	279	273
55°	246	239	216	191	181	221
65°	146	138	125	127	106	144
75°	59	54	51	49	54	63
85°	8	9	10	11	12	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	714.2	714.2	714.2	714.2	714.2
2.5°	709.2	709.2	709.2	708.4	708.4
5°	701.8	701.0	701.0	700.1	700.1
7.5°	696.0	695.2	694.3	693.5	691.9
10°	687.7	687.7	686.9	682.8	682.0
12.5°	674.5	673.7	670.4	664.6	663.0
15°	656.4	656.4	649.8	643.2	640.7
17.5°	636.6	635.7	627.5	620.9	617.6
20°	615.1	613.4	605.2	594.4	588.7
22.5°	591.1	591.1	581.2	567.2	561.4
25°	568.9	565.5	556.5	536.7	521.8
27.5°	543.3	538.3	528.4	500.3	483.0
30°	515.2	512.7	498.7	462.3	449.1
32.5°	488.8	484.6	469.8	431.8	421.1
35°	461.5	458.2	435.9	402.9	393.0
37.5°	434.3	430.1	402.1	375.7	363.3
40°	407.0	402.1	371.5	347.6	334.4
42.5°	381.4	374.8	345.1	319.5	304.7
45°	354.2	346.8	317.0	290.6	279.1
47.5°	326.9	320.3	293.1	265.8	252.6
50°	298.0	292.3	267.5	240.3	226.2
52.5°	274.1	265.0	241.1	213.8	202.3
55°	246.0	238.6	216.3	190.7	180.8
57.5°	220.4	213.0	192.4	168.4	160.2
60°	196.5	185.8	168.4	147.8	141.2
62.5°	170.1	161.8	147.0	129.6	137.9
65°	146.1	137.9	124.7	127.1	105.7
67.5°	119.7	115.6	104.0	92.5	89.2
70°	97.4	92.5	88.3	76.0	72.7
72.5°	77.6	72.7	66.9	60.3	57.8
75°	58.6	54.5	51.2	48.7	53.7
77.5°	40.5	38.8	36.3	33.9	33.0
80°	26.4	25.6	24.8	23.9	23.1
82.5°	15.7	15.7	15.7	15.7	15.7
85°	8.3	9.1	9.9	10.7	11.6
87.5°	5.0	5.0	5.8	6.6	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)