

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: P561239

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561239  
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-12-4-LD4-1STD-40-UNV-82-87-EDD  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

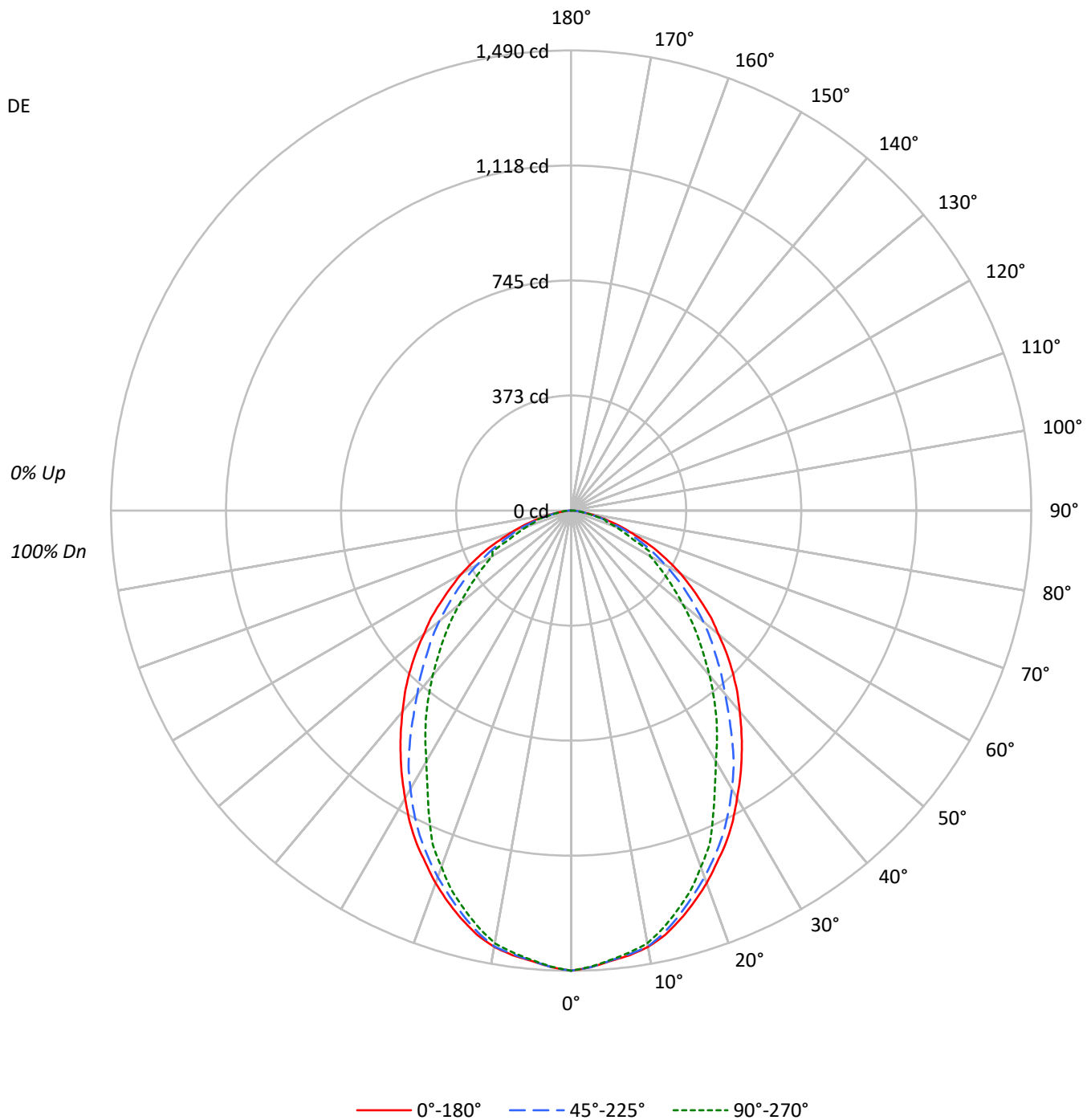
Lumens per Lamp: N/A  
Luminaire Lumens: 2925.0 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4010	4010	4010
5°	3955	3950	3946
10°	3921	3916	3888
15°	3815	3777	3724
20°	3675	3616	3517
25°	3524	3447	3232
30°	3340	3233	2912
35°	3163	2988	2693
40°	2983	2723	2451
45°	2812	2517	2216
50°	2603	2336	1976
55°	2408	2117	1770
60°	2207	1891	1585
65°	1941	1656	1404
70°	1600	1450	1193
75°	1272	1110	1164
80°	854	801	747
85°	531	639	744

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2812 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.7	4.7
10°-20°	380.6	13.0
20°-30°	527.0	18.0
30°-40°	561.9	19.2
40°-50°	512.6	17.5
50°-60°	401.6	13.7
60°-70°	261.7	8.9
70°-80°	116.0	4.0
80°-90°	24.9	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°	1046.3	35.8
0°-40°	1608.2	55.0
0°-60°	2522.4	86.2
0°-90°	2925.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2925.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1464	1462	1462	1461	1461	139
15°	1369	1369	1356	1342	1337	385
25°	1187	1180	1161	1120	1089	545
35°	963	956	910	841	820	602
45°	739	723	661	606	582	569
55°	513	498	451	398	377	460
65°	305	288	260	265	220	300
75°	122	114	107	102	112	131
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1490.0	1490.0	1490.0	1490.0	1490.0
2.5°	1479.6	1479.6	1479.6	1477.9	1477.9
5°	1464.1	1462.4	1462.4	1460.7	1460.7
7.5°	1452.1	1450.3	1448.6	1446.9	1443.4
10°	1434.8	1434.8	1433.1	1424.5	1422.8
12.5°	1407.3	1405.6	1398.7	1386.6	1383.2
15°	1369.4	1369.4	1355.6	1341.8	1336.7
17.5°	1328.0	1326.3	1309.1	1295.3	1288.4
20°	1283.3	1279.8	1262.6	1240.2	1228.1
22.5°	1233.3	1233.3	1212.6	1183.4	1171.3
25°	1186.8	1179.9	1161.0	1119.6	1088.6
27.5°	1133.4	1123.1	1102.4	1043.8	1007.7
30°	1074.8	1069.7	1040.4	964.6	937.0
32.5°	1019.7	1011.1	980.1	900.9	878.5
35°	962.9	956.0	909.5	840.6	819.9
37.5°	906.0	897.4	838.9	783.7	757.9
40°	849.2	838.9	775.1	725.2	697.6
42.5°	795.8	782.0	720.0	666.6	635.6
45°	738.9	723.4	661.4	606.3	582.2
47.5°	682.1	668.3	611.5	554.6	527.1
50°	621.8	609.8	558.1	501.2	472.0
52.5°	571.9	552.9	503.0	446.1	422.0
55°	513.3	497.8	451.3	397.9	377.2
57.5°	459.9	444.4	401.3	351.4	334.2
60°	410.0	387.6	351.4	308.3	294.5
62.5°	354.8	337.6	306.6	270.4	287.7
65°	304.9	287.7	260.1	265.3	220.5
67.5°	249.8	241.1	217.0	192.9	186.0
70°	203.3	192.9	184.3	158.5	151.6
72.5°	161.9	151.6	139.5	125.7	120.6
75°	122.3	113.7	106.8	101.6	112.0
77.5°	84.4	81.0	75.8	70.6	68.9
80°	55.1	53.4	51.7	50.0	48.2
82.5°	32.7	32.7	32.7	32.7	32.7
85°	17.2	18.9	20.7	22.4	24.1
87.5°	10.3	10.3	12.1	13.8	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)