

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: P562326

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562326  
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-24-4-LD4-1STD-35-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

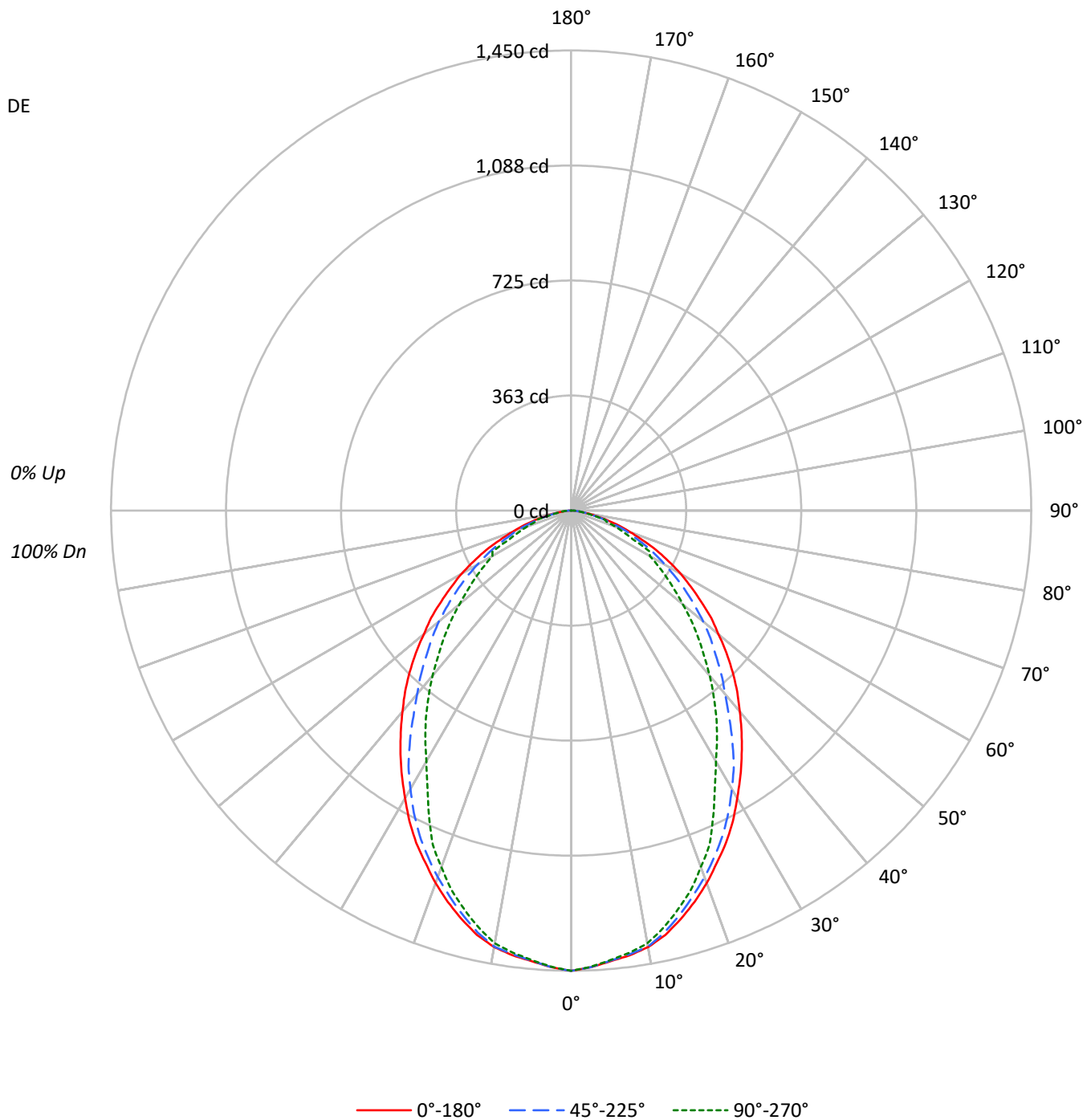
Lumens per Lamp: N/A  
Luminaire Lumens: 2847.0 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	1951	1951	1951
5°	1925	1922	1920
10°	1908	1906	1892
15°	1857	1838	1812
20°	1788	1760	1712
25°	1715	1678	1573
30°	1625	1573	1417
35°	1539	1454	1311
40°	1452	1325	1193
45°	1369	1225	1078
50°	1267	1137	962
55°	1172	1031	861
60°	1074	920	772
65°	945	806	683
70°	778	706	580
75°	619	540	567
80°	415	390	363
85°	259	310	363

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1369 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.0	4.7
10°-20°	370.5	13.0
20°-30°	512.9	18.0
30°-40°	546.9	19.2
40°-50°	498.9	17.5
50°-60°	390.9	13.7
60°-70°	254.8	8.9
70°-80°	112.9	4.0
80°-90°	24.2	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°	1018.4	35.8
0°-40°	1565.3	55.0
0°-60°	2455.1	86.2
0°-90°	2847.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2847.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1450	1450	1450	1450	1450	
5°	1425	1423	1423	1422	1422	135
15°	1333	1333	1320	1306	1301	375
25°	1155	1148	1130	1090	1060	530
35°	937	930	885	818	798	586
45°	719	704	644	590	567	554
55°	500	484	439	387	367	448
65°	297	280	253	258	215	292
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1450.2	1450.2	1450.2	1450.2	1450.2
2.5°	1440.2	1440.2	1440.2	1438.5	1438.5
5°	1425.1	1423.4	1423.4	1421.7	1421.7
7.5°	1413.3	1411.7	1410.0	1408.3	1405.0
10°	1396.6	1396.6	1394.9	1386.5	1384.8
12.5°	1369.7	1368.1	1361.4	1349.6	1346.3
15°	1332.9	1332.9	1319.5	1306.0	1301.0
17.5°	1292.6	1291.0	1274.2	1260.8	1254.1
20°	1249.0	1245.7	1228.9	1207.1	1195.4
22.5°	1200.4	1200.4	1180.3	1151.8	1140.1
25°	1155.1	1148.4	1130.0	1089.8	1059.6
27.5°	1103.2	1093.1	1073.0	1016.0	980.8
30°	1046.2	1041.1	1012.6	938.9	912.0
32.5°	992.5	984.1	954.0	876.8	855.0
35°	937.2	930.5	885.2	818.2	798.0
37.5°	881.9	873.5	816.5	762.8	737.7
40°	826.5	816.5	754.5	705.8	679.0
42.5°	774.6	761.2	700.8	648.8	618.7
45°	719.2	704.2	643.8	590.1	566.7
47.5°	663.9	650.5	595.2	539.9	513.0
50°	605.2	593.5	543.2	487.9	459.4
52.5°	556.6	538.2	489.6	434.2	410.8
55°	499.6	484.5	439.3	387.3	367.2
57.5°	447.6	432.6	390.6	342.0	325.3
60°	399.0	377.2	342.0	300.1	286.7
62.5°	345.4	328.6	298.4	263.2	280.0
65°	296.8	280.0	253.2	258.2	214.6
67.5°	243.1	234.7	211.2	187.8	181.1
70°	197.8	187.8	179.4	154.2	147.5
72.5°	157.6	147.5	135.8	122.4	117.4
75°	119.0	110.7	103.9	98.9	109.0
77.5°	82.2	78.8	73.8	68.7	67.1
80°	53.6	52.0	50.3	48.6	46.9
82.5°	31.9	31.9	31.9	31.9	31.9
85°	16.8	18.4	20.1	21.8	23.5
87.5°	10.1	10.1	11.7	13.4	15.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)