

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: P561474

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561474  
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-LD4-2HI-50-UNV-81-85-EDD-90  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

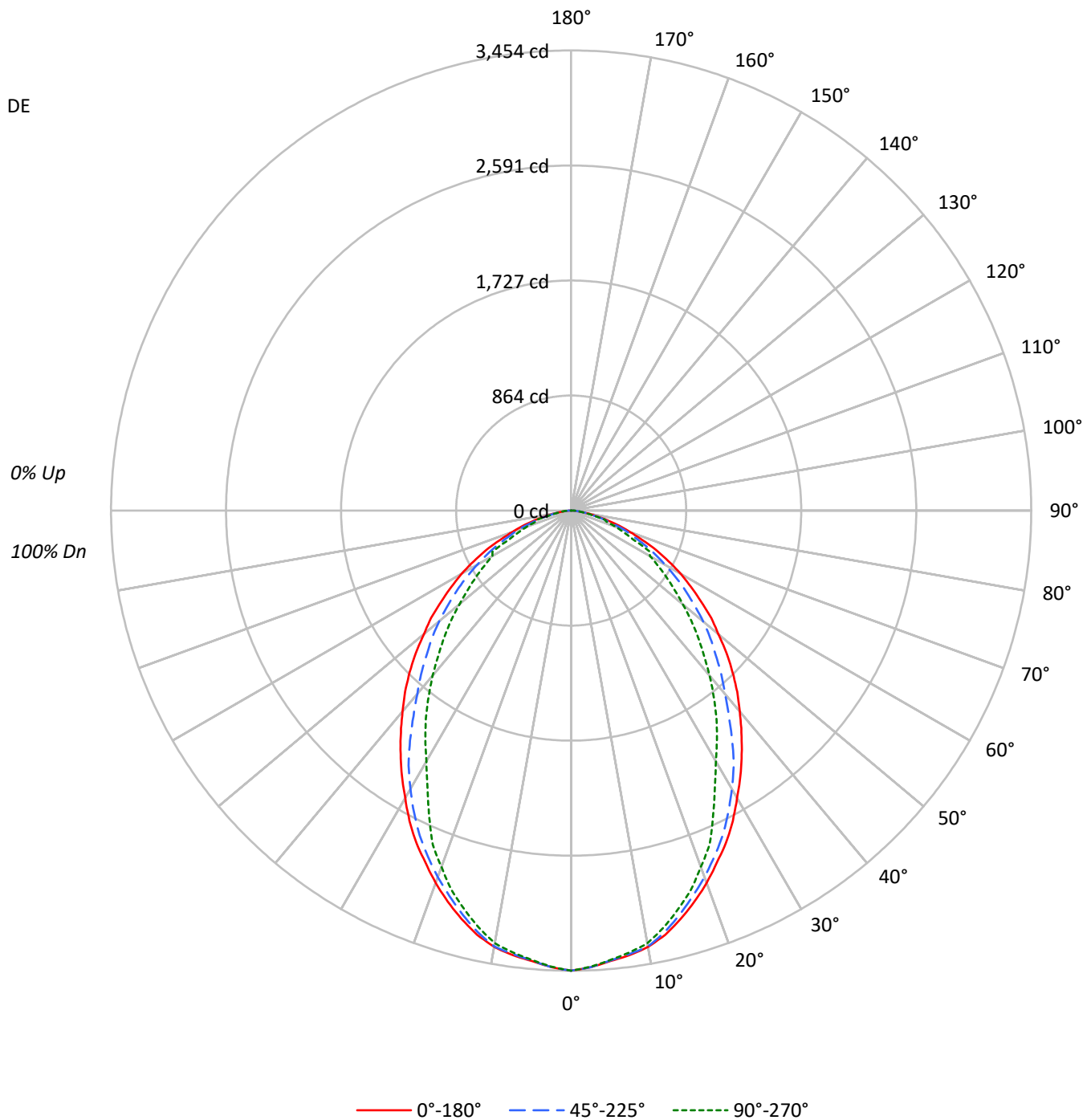
Lumens per Lamp: N/A  
Luminaire Lumens: 6780.0 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9294	9294	9294
5°	9168	9157	9146
10°	9088	9077	9011
15°	8843	8754	8632
20°	8518	8381	8152
25°	8168	7990	7492
30°	7741	7494	6749
35°	7332	6925	6243
40°	6915	6311	5680
45°	6518	5835	5136
50°	6034	5416	4580
55°	5582	4908	4102
60°	5114	4384	3674
65°	4500	3839	3254
70°	3707	3361	2765
75°	2948	2573	2698
80°	1980	1857	1733
85°	1232	1479	1726

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6518 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	321.5	4.7
10°-20°	882.3	13.0
20°-30°	1221.5	18.0
30°-40°	1302.5	19.2
40°-50°	1188.2	17.5
50°-60°	930.9	13.7
60°-70°	606.7	8.9
70°-80°	268.8	4.0
80°-90°	57.7	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°	2425.3	35.8
0°-40°	3727.7	55.0
0°-60°	5846.8	86.2
0°-90°	6780.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6780.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3454	3454	3454	3454	3454	
5°	3394	3390	3390	3386	3386	322
15°	3174	3174	3142	3110	3098	892
25°	2751	2735	2691	2595	2523	1263
35°	2232	2216	2108	1948	1900	1395
45°	1713	1677	1533	1405	1350	1319
55°	1190	1154	1046	922	874	1067
65°	707	667	603	615	511	696
75°	284	264	248	236	260	304
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3453.6	3453.6	3453.6	3453.6	3453.6
2.5°	3429.7	3429.7	3429.7	3425.7	3425.7
5°	3393.8	3389.8	3389.8	3385.8	3385.8
7.5°	3365.8	3361.8	3357.8	3353.8	3345.8
10°	3325.9	3325.9	3321.9	3301.9	3297.9
12.5°	3262.0	3258.0	3242.0	3214.1	3206.1
15°	3174.2	3174.2	3142.2	3110.3	3098.3
17.5°	3078.3	3074.3	3034.4	3002.5	2986.5
20°	2974.5	2966.5	2926.6	2874.7	2846.8
22.5°	2858.7	2858.7	2810.8	2742.9	2715.0
25°	2750.9	2735.0	2691.0	2595.2	2523.4
27.5°	2627.2	2603.2	2555.3	2419.5	2335.7
30°	2491.4	2479.4	2411.6	2235.9	2172.0
32.5°	2363.6	2343.7	2271.8	2088.2	2036.3
35°	2231.9	2215.9	2108.1	1948.4	1900.5
37.5°	2100.1	2080.2	1944.4	1816.7	1756.8
40°	1968.4	1944.4	1796.7	1680.9	1617.0
42.5°	1844.6	1812.7	1668.9	1545.2	1473.3
45°	1712.8	1676.9	1533.2	1405.4	1349.5
47.5°	1581.1	1549.1	1417.4	1285.6	1221.8
50°	1441.3	1413.4	1293.6	1161.9	1094.0
52.5°	1325.6	1281.6	1165.9	1034.1	978.2
55°	1189.8	1153.9	1046.1	922.3	874.4
57.5°	1066.0	1030.1	930.3	814.5	774.6
60°	950.3	898.3	814.5	714.7	682.7
62.5°	822.5	782.6	710.7	626.8	666.8
65°	706.7	666.8	602.9	614.9	511.1
67.5°	578.9	559.0	503.1	447.2	431.2
70°	471.1	447.2	427.2	367.3	351.4
72.5°	375.3	351.4	323.4	291.5	279.5
75°	283.5	263.5	247.5	235.6	259.5
77.5°	195.6	187.7	175.7	163.7	159.7
80°	127.8	123.8	119.8	115.8	111.8
82.5°	75.9	75.9	75.9	75.9	75.9
85°	39.9	43.9	47.9	51.9	55.9
87.5°	24.0	24.0	27.9	31.9	35.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)