

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: P561365

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561365  
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-35-UNV-82-86-EDD  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

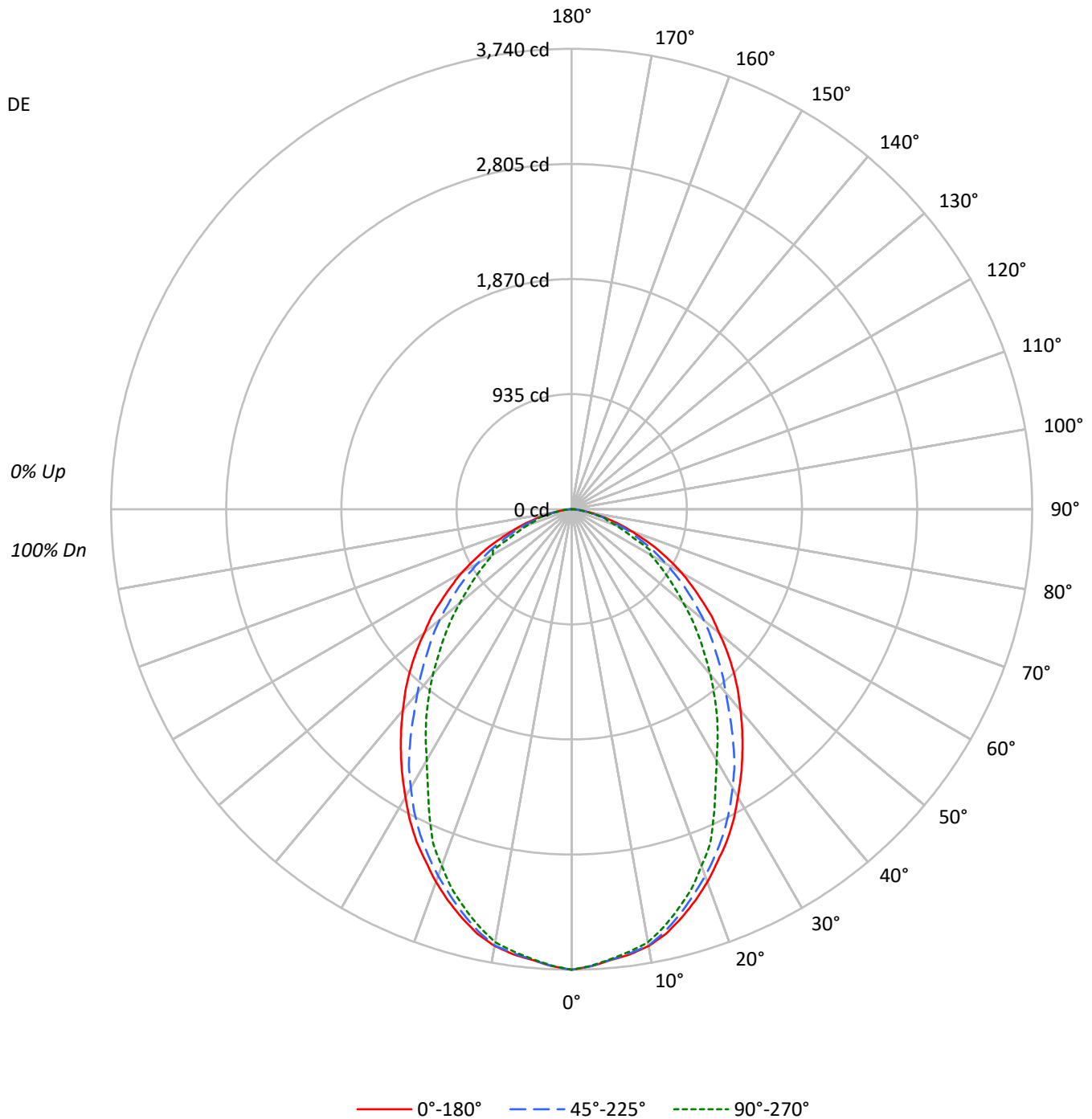
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7343.0 lumens  
Efficiency: N/A  
Efficacy: 85.0 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									
RC	80									70									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°	10065	10065	10065
5°	9929	9917	9905
10°	9843	9831	9760
15°	9577	9481	9348
20°	9225	9077	8829
25°	8846	8654	8114
30°	8384	8116	7310
35°	7941	7500	6762
40°	7489	6836	6152
45°	7060	6319	5562
50°	6535	5865	4960
55°	6046	5315	4443
60°	5539	4747	3979
65°	4874	4158	3524
70°	4015	3640	2994
75°	3192	2787	2923
80°	2145	2010	1877
85°	1334	1602	1868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7060 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	348.2	4.7
10°-20°	955.6	13.0
20°-30°	1322.9	18.0
30°-40°	1410.6	19.2
40°-50°	1286.9	17.5
50°-60°	1008.2	13.7
60°-70°	657.1	8.9
70°-80°	291.1	4.0
80°-90°	62.5	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°	2626.6	35.8
0°-40°	4037.3	55.0
0°-60°	6332.3	86.2
0°-90°	7343.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7343.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3740	3740	3740	3740	3740	
5°	3676	3671	3671	3667	3667	349
15°	3438	3438	3403	3368	3356	966
25°	2979	2962	2914	2811	2733	1368
35°	2417	2400	2283	2110	2058	1511
45°	1855	1816	1660	1522	1462	1429
55°	1289	1250	1133	999	947	1156
65°	765	722	653	666	554	754
75°	307	285	268	255	281	329
85°	43	48	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3740.4	3740.4	3740.4	3740.4	3740.4
2.5°	3714.5	3714.5	3714.5	3710.2	3710.2
5°	3675.6	3671.2	3671.2	3666.9	3666.9
7.5°	3645.3	3641.0	3636.6	3632.3	3623.7
10°	3602.1	3602.1	3597.7	3576.1	3571.8
12.5°	3532.9	3528.5	3511.2	3481.0	3472.3
15°	3437.7	3437.7	3403.1	3368.5	3355.6
17.5°	3334.0	3329.6	3286.4	3251.8	3234.5
20°	3221.5	3212.9	3169.6	3113.4	3083.1
22.5°	3096.1	3096.1	3044.2	2970.7	2940.5
25°	2979.4	2962.1	2914.5	2810.7	2732.9
27.5°	2845.3	2819.4	2767.5	2620.5	2529.7
30°	2698.3	2685.3	2611.8	2421.5	2352.4
32.5°	2559.9	2538.3	2460.5	2261.6	2205.3
35°	2417.2	2399.9	2283.2	2110.2	2058.3
37.5°	2274.5	2252.9	2105.9	1967.5	1902.6
40°	2131.8	2105.9	1945.9	1820.5	1751.3
42.5°	1997.8	1963.2	1807.5	1673.5	1595.6
45°	1855.1	1816.2	1660.5	1522.1	1461.6
47.5°	1712.4	1677.8	1535.1	1392.4	1323.2
50°	1561.0	1530.8	1401.0	1258.3	1184.8
52.5°	1435.6	1388.1	1262.7	1120.0	1059.4
55°	1288.6	1249.7	1132.9	998.9	947.0
57.5°	1154.6	1115.6	1007.5	882.1	838.9
60°	1029.2	972.9	882.1	774.0	739.4
62.5°	890.8	847.5	769.7	678.9	722.1
65°	765.4	722.1	653.0	665.9	553.5
67.5°	627.0	605.4	544.8	484.3	467.0
70°	510.3	484.3	462.7	397.8	380.5
72.5°	406.5	380.5	350.3	315.7	302.7
75°	307.0	285.4	268.1	255.1	281.1
77.5°	211.9	203.2	190.3	177.3	173.0
80°	138.4	134.0	129.7	125.4	121.1
82.5°	82.2	82.2	82.2	82.2	82.2
85°	43.2	47.6	51.9	56.2	60.5
87.5°	25.9	25.9	30.3	34.6	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)