

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: P561879

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561879  
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-LD4-2STD-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

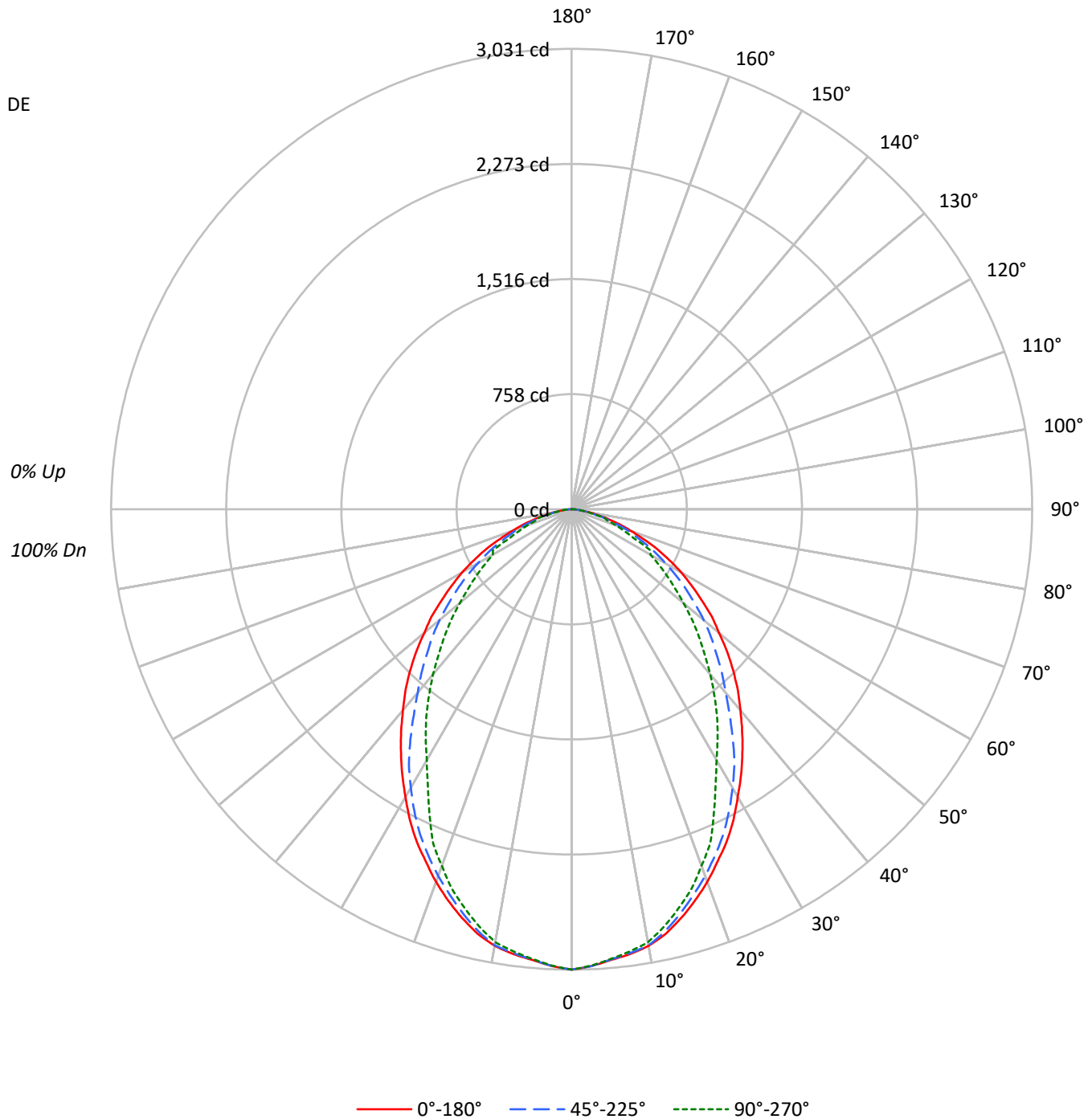
Lumens per Lamp: N/A  
Luminaire Lumens: 5950.0 lumens  
Efficiency: N/A  
Efficacy: 89.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	8156	8156	8156
5°	8045	8036	8026
10°	7975	7966	7908
15°	7760	7682	7575
20°	7475	7355	7154
25°	7168	7012	6575
30°	6794	6576	5923
35°	6434	6077	5479
40°	6068	5539	4985
45°	5721	5120	4507
50°	5295	4753	4019
55°	4899	4307	3600
60°	4488	3847	3225
65°	3949	3369	2856
70°	3253	2950	2426
75°	2587	2258	2368
80°	1737	1629	1520
85°	1081	1297	1516

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5721 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	282.1	4.7
10°-20°	774.3	13.0
20°-30°	1071.9	18.0
30°-40°	1143.0	19.2
40°-50°	1042.8	17.5
50°-60°	816.9	13.7
60°-70°	532.4	8.9
70°-80°	235.9	4.0
80°-90°	50.6	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°	2128.4	35.8
0°-40°	3271.4	55.0
0°-60°	5131.0	86.2
0°-90°	5950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5950.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3031	3031	3031	3031	3031	
5°	2978	2975	2975	2971	2971	283
15°	2786	2786	2758	2730	2719	783
25°	2414	2400	2362	2278	2214	1108
35°	1959	1945	1850	1710	1668	1225
45°	1503	1472	1346	1233	1184	1158
55°	1044	1013	918	809	767	937
65°	620	585	529	540	448	611
75°	249	231	217	207	228	267
85°	35	38	42	46	49	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3030.9	3030.9	3030.9	3030.9	3030.9
2.5°	3009.8	3009.8	3009.8	3006.3	3006.3
5°	2978.3	2974.8	2974.8	2971.3	2971.3
7.5°	2953.8	2950.3	2946.8	2943.3	2936.2
10°	2918.7	2918.7	2915.2	2897.7	2894.2
12.5°	2862.7	2859.2	2845.1	2820.6	2813.6
15°	2785.6	2785.6	2757.5	2729.5	2719.0
17.5°	2701.5	2698.0	2662.9	2634.9	2620.9
20°	2610.4	2603.4	2568.3	2522.8	2498.3
22.5°	2508.8	2508.8	2466.7	2407.2	2382.6
25°	2414.2	2400.2	2361.6	2277.5	2214.4
27.5°	2305.5	2284.5	2242.5	2123.3	2049.8
30°	2186.4	2175.9	2116.3	1962.2	1906.1
32.5°	2074.3	2056.8	1993.7	1832.5	1787.0
35°	1958.7	1944.6	1850.0	1709.9	1667.8
37.5°	1843.0	1825.5	1706.4	1594.3	1541.7
40°	1727.4	1706.4	1576.7	1475.1	1419.1
42.5°	1618.8	1590.8	1464.6	1356.0	1292.9
45°	1503.2	1471.6	1345.5	1233.4	1184.3
47.5°	1387.5	1359.5	1243.9	1128.2	1072.2
50°	1264.9	1240.4	1135.3	1019.6	960.1
52.5°	1163.3	1124.7	1023.1	907.5	858.4
55°	1044.2	1012.6	918.0	809.4	767.3
57.5°	935.5	904.0	816.4	714.8	679.8
60°	833.9	788.4	714.8	627.2	599.2
62.5°	721.8	686.8	623.7	550.1	585.1
65°	620.2	585.1	529.1	539.6	448.5
67.5°	508.1	490.5	441.5	392.4	378.4
70°	413.5	392.4	374.9	322.4	308.3
72.5°	329.4	308.3	283.8	255.8	245.3
75°	248.8	231.3	217.2	206.7	227.8
77.5°	171.7	164.7	154.2	143.7	140.2
80°	112.1	108.6	105.1	101.6	98.1
82.5°	66.6	66.6	66.6	66.6	66.6
85°	35.0	38.5	42.0	45.6	49.1
87.5°	21.0	21.0	24.5	28.0	31.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)