

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: P561730

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561730  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

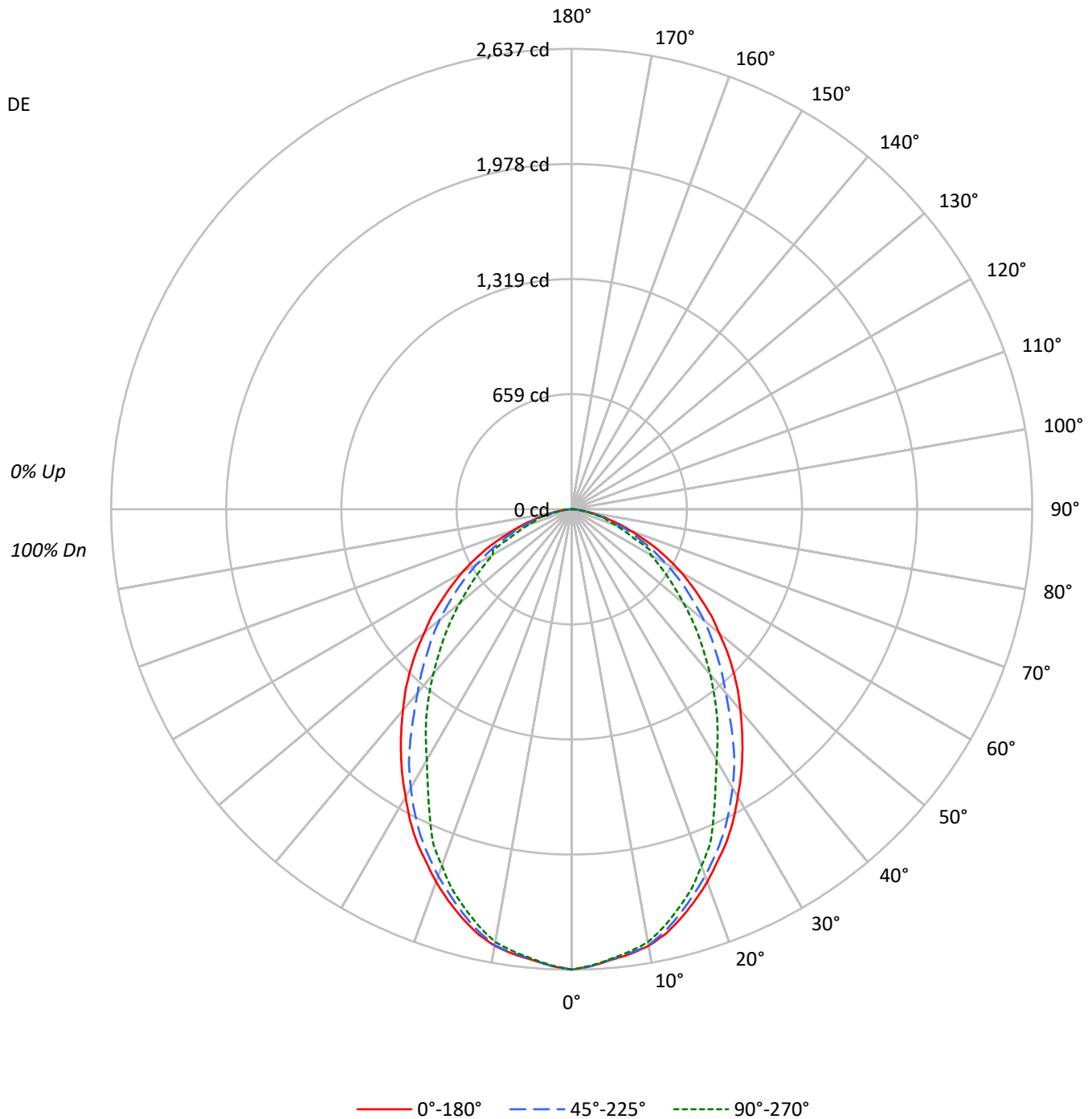
Lumens per Lamp: N/A  
Luminaire Lumens: 5176.0 lumens  
Efficiency: N/A  
Efficacy: 77.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7095	7095	7095
5°	6999	6990	6982
10°	6938	6930	6880
15°	6751	6683	6590
20°	6503	6398	6224
25°	6236	6100	5720
30°	5910	5720	5152
35°	5597	5287	4766
40°	5279	4818	4337
45°	4976	4454	3921
50°	4607	4135	3496
55°	4261	3747	3132
60°	3904	3347	2805
65°	3435	2931	2485
70°	2830	2566	2110
75°	2250	1965	2060
80°	1511	1416	1322
85°	942	1130	1318

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4976 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	245.4	4.7
10°-20°	673.6	13.0
20°-30°	932.5	18.0
30°-40°	994.3	19.2
40°-50°	907.1	17.5
50°-60°	710.6	13.7
60°-70°	463.2	8.9
70°-80°	205.2	4.0
80°-90°	44.0	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°	1851.5	35.8
0°-40°	2845.8	55.0
0°-60°	4463.6	86.2
0°-90°	5176.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5176.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2637	2637	2637	2637	2637	
5°	2591	2588	2588	2585	2585	246
15°	2423	2423	2399	2374	2365	681
25°	2100	2088	2054	1981	1926	964
35°	1704	1692	1609	1488	1451	1065
45°	1308	1280	1170	1073	1030	1007
55°	908	881	799	704	668	815
65°	540	509	460	469	390	532
75°	216	201	189	180	198	232
85°	30	34	37	40	43	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2636.6	2636.6	2636.6	2636.6	2636.6
2.5°	2618.3	2618.3	2618.3	2615.2	2615.2
5°	2590.9	2587.8	2587.8	2584.8	2584.8
7.5°	2569.5	2566.5	2563.4	2560.4	2554.3
10°	2539.0	2539.0	2536.0	2520.8	2517.7
12.5°	2490.3	2487.2	2475.0	2453.7	2447.6
15°	2423.2	2423.2	2398.8	2374.5	2365.3
17.5°	2350.1	2347.0	2316.5	2292.2	2280.0
20°	2270.8	2264.7	2234.2	2194.6	2173.3
22.5°	2182.4	2182.4	2145.8	2094.0	2072.7
25°	2100.1	2087.9	2054.4	1981.2	1926.4
27.5°	2005.6	1987.3	1950.8	1847.1	1783.1
30°	1902.0	1892.9	1841.0	1706.9	1658.2
32.5°	1804.5	1789.2	1734.4	1594.1	1554.5
35°	1703.9	1691.7	1609.4	1487.5	1450.9
37.5°	1603.3	1588.0	1484.4	1386.9	1341.2
40°	1502.7	1484.4	1371.6	1283.2	1234.5
42.5°	1408.2	1383.8	1274.1	1179.6	1124.7
45°	1307.6	1280.2	1170.5	1072.9	1030.2
47.5°	1207.0	1182.7	1082.1	981.5	932.7
50°	1100.4	1079.0	987.6	887.0	835.2
52.5°	1012.0	978.4	890.0	789.5	746.8
55°	908.3	880.9	798.6	704.1	667.5
57.5°	813.8	786.4	710.2	621.8	591.3
60°	725.4	685.8	621.8	545.6	521.2
62.5°	627.9	597.4	542.6	478.5	509.0
65°	539.5	509.0	460.3	469.4	390.2
67.5°	442.0	426.7	384.1	341.4	329.2
70°	359.7	341.4	326.1	280.4	268.2
72.5°	286.5	268.2	246.9	222.5	213.4
75°	216.4	201.2	189.0	179.8	198.1
77.5°	149.4	143.3	134.1	125.0	121.9
80°	97.5	94.5	91.4	88.4	85.3
82.5°	57.9	57.9	57.9	57.9	57.9
85°	30.5	33.5	36.6	39.6	42.7
87.5°	18.3	18.3	21.3	24.4	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)