

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: P562918

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562918  
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-LD4-2STD-35-UNV-93-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

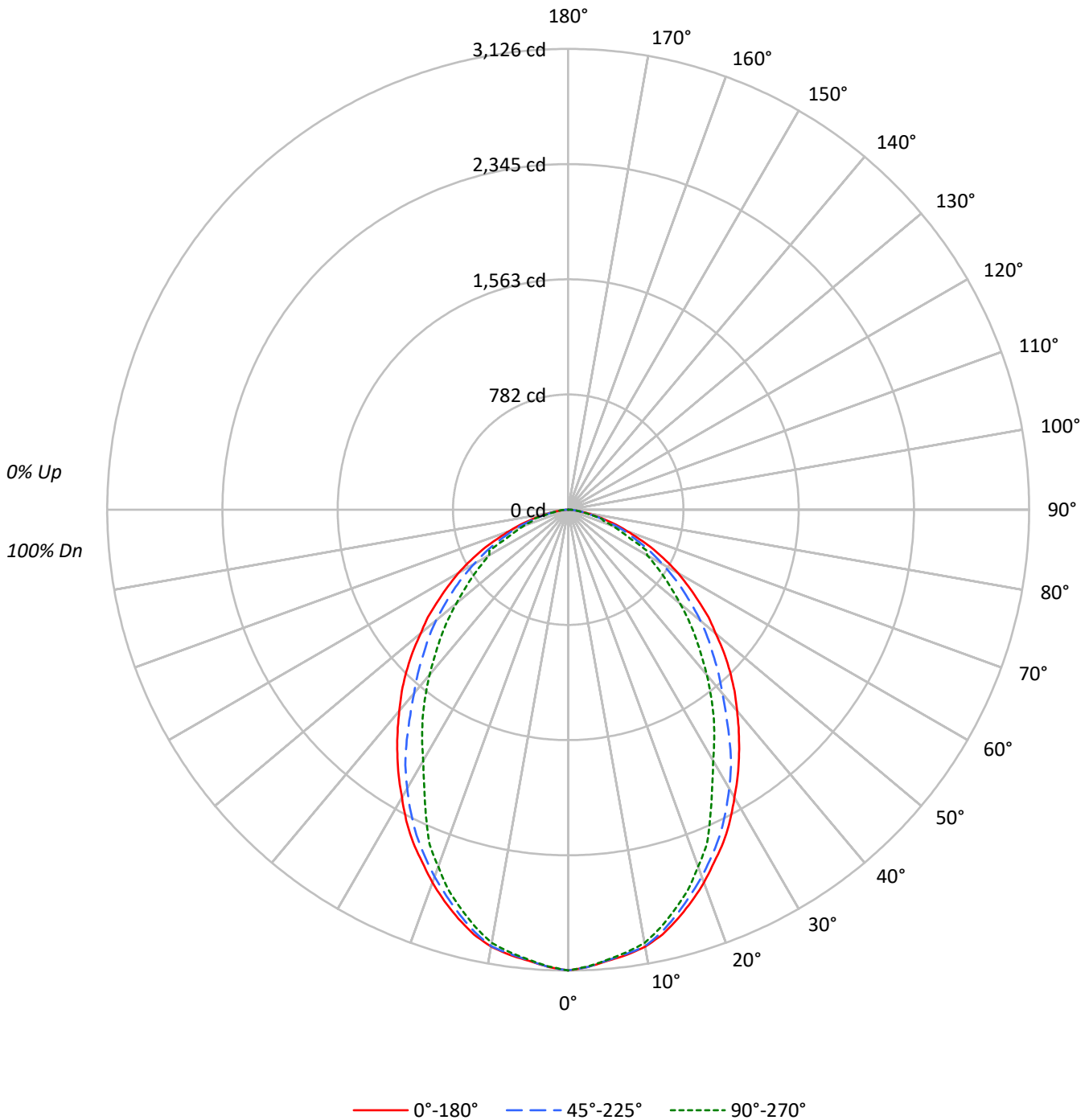
Lumens per Lamp: N/A  
Luminaire Lumens: 6136.0 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4205	4205	4205
5°	4148	4143	4139
10°	4112	4107	4078
15°	4002	3961	3906
20°	3855	3792	3689
25°	3696	3616	3390
30°	3503	3391	3054
35°	3318	3134	2825
40°	3129	2856	2570
45°	2950	2640	2324
50°	2730	2451	2072
55°	2526	2221	1856
60°	2314	1984	1663
65°	2036	1737	1472
70°	1677	1521	1251
75°	1334	1164	1221
80°	896	840	784
85°	557	670	781

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2950 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.0	4.7
10°-20°	798.5	13.0
20°-30°	1105.5	18.0
30°-40°	1178.7	19.2
40°-50°	1075.3	17.5
50°-60°	842.5	13.7
60°-70°	549.1	8.9
70°-80°	243.3	4.0
80°-90°	52.2	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°	2194.9	35.8
0°-40°	3373.6	55.0
0°-60°	5291.4	86.2
0°-90°	6136.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6136.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3126	3126	3126	3126	3126	
5°	3071	3068	3068	3064	3064	292
15°	2873	2873	2844	2815	2804	808
25°	2490	2475	2435	2349	2284	1143
35°	2020	2005	1908	1763	1720	1263
45°	1550	1518	1388	1272	1221	1194
55°	1077	1044	947	835	791	966
65°	640	603	546	556	462	630
75°	257	238	224	213	235	275
85°	36	40	43	47	51	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3125.6	3125.6	3125.6	3125.6	3125.6
2.5°	3103.9	3103.9	3103.9	3100.3	3100.3
5°	3071.4	3067.8	3067.8	3064.2	3064.2
7.5°	3046.1	3042.5	3038.9	3035.3	3028.0
10°	3010.0	3010.0	3006.4	2988.3	2984.7
12.5°	2952.2	2948.5	2934.1	2908.8	2901.6
15°	2872.7	2872.7	2843.8	2814.8	2804.0
17.5°	2785.9	2782.3	2746.2	2717.3	2702.8
20°	2692.0	2684.8	2648.6	2601.7	2576.4
22.5°	2587.2	2587.2	2543.8	2482.4	2457.1
25°	2489.6	2475.2	2435.4	2348.7	2283.7
27.5°	2377.6	2355.9	2312.6	2189.7	2113.8
30°	2254.8	2243.9	2182.5	2023.5	1965.7
32.5°	2139.1	2121.1	2056.0	1889.8	1842.8
35°	2019.9	2005.4	1907.9	1763.3	1720.0
37.5°	1900.7	1882.6	1759.7	1644.1	1589.9
40°	1781.4	1759.7	1626.0	1521.2	1463.4
42.5°	1669.4	1640.5	1510.4	1398.4	1333.3
45°	1550.2	1517.6	1387.5	1271.9	1221.3
47.5°	1430.9	1402.0	1282.8	1163.5	1105.7
50°	1304.4	1279.1	1170.7	1051.5	990.1
52.5°	1199.7	1159.9	1055.1	935.9	885.3
55°	1076.8	1044.3	946.7	834.7	791.3
57.5°	964.8	932.3	841.9	737.1	701.0
60°	860.0	813.0	737.1	646.8	617.9
62.5°	744.4	708.2	643.2	567.3	603.4
65°	639.6	603.4	545.6	556.5	462.5
67.5°	523.9	505.9	455.3	404.7	390.2
70°	426.4	404.7	386.6	332.4	318.0
72.5°	339.7	318.0	292.7	263.8	252.9
75°	256.6	238.5	224.0	213.2	234.9
77.5°	177.1	169.8	159.0	148.1	144.5
80°	115.6	112.0	108.4	104.8	101.2
82.5°	68.7	68.7	68.7	68.7	68.7
85°	36.1	39.7	43.4	47.0	50.6
87.5°	21.7	21.7	25.3	28.9	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)