

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: P563887

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563887  
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-LD4-4LO-35-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

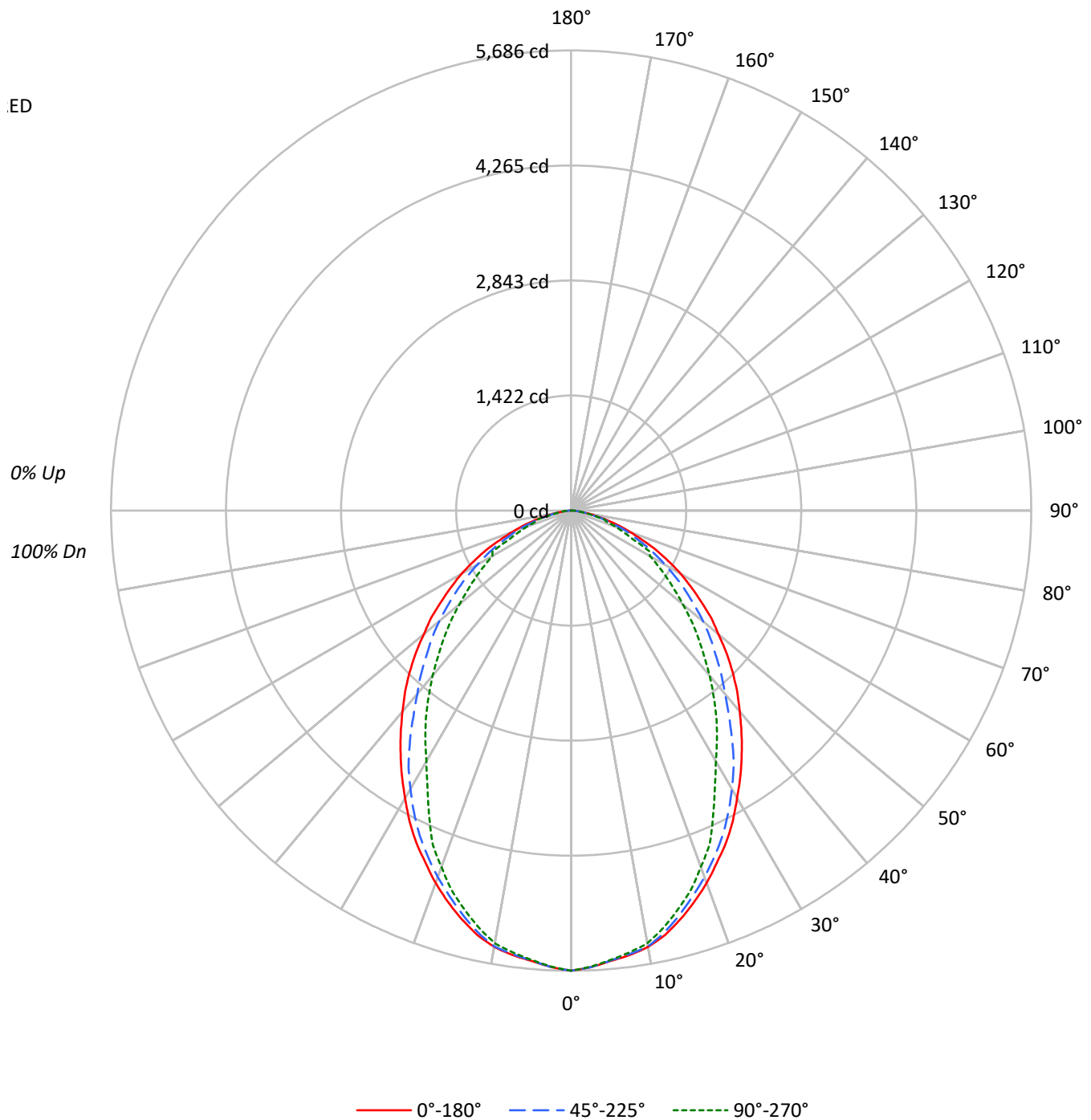
Lumens per Lamp: N/A  
Luminaire Lumens: 11162.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7650	7650	7650
5°	7546	7537	7528
10°	7481	7472	7418
15°	7279	7206	7105
20°	7012	6899	6711
25°	6724	6577	6167
30°	6372	6168	5555
35°	6035	5701	5139
40°	5692	5195	4676
45°	5366	4803	4227
50°	4967	4458	3770
55°	4595	4040	3377
60°	4210	3608	3025
65°	3704	3160	2679
70°	3051	2767	2275
75°	2426	2118	2221
80°	1629	1528	1426
85°	1014	1218	1420

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5366 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	529.3	4.7
10°-20°	1452.5	13.0
20°-30°	2010.9	18.0
30°-40°	2144.2	19.2
40°-50°	1956.2	17.5
50°-60°	1532.5	13.7
60°-70°	998.8	8.9
70°-80°	442.5	4.0
80°-90°	95.0	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°	3992.7	35.8
0°-40°	6137.0	55.0
0°-60°	9625.7	86.2
0°-90°	11162.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11162.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5686	5686	5686	5686	5686	
5°	5587	5581	5581	5574	5574	530
15°	5226	5226	5173	5120	5101	1469
25°	4529	4503	4430	4272	4154	2079
35°	3674	3648	3471	3208	3129	2297
45°	2820	2761	2524	2314	2222	2172
55°	1959	1900	1722	1518	1440	1757
65°	1163	1098	992	1012	841	1147
75°	467	434	408	388	427	500
85°	66	72	79	86	92	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5685.8	5685.8	5685.8	5685.8	5685.8
2.5°	5646.3	5646.3	5646.3	5639.8	5639.8
5°	5587.2	5580.6	5580.6	5574.0	5574.0
7.5°	5541.2	5534.6	5528.0	5521.4	5508.3
10°	5475.4	5475.4	5468.9	5436.0	5429.4
12.5°	5370.3	5363.7	5337.4	5291.4	5278.2
15°	5225.7	5225.7	5173.1	5120.5	5100.8
17.5°	5067.9	5061.3	4995.6	4943.0	4916.7
20°	4897.0	4883.8	4818.1	4732.7	4686.7
22.5°	4706.4	4706.4	4627.5	4515.8	4469.7
25°	4528.9	4502.6	4430.3	4272.5	4154.2
27.5°	4325.1	4285.7	4206.8	3983.3	3845.3
30°	4101.6	4081.9	3970.2	3681.0	3575.8
32.5°	3891.3	3858.4	3740.1	3437.8	3352.3
35°	3674.4	3648.1	3470.6	3207.7	3128.8
37.5°	3457.5	3424.6	3201.1	2990.8	2892.2
40°	3240.6	3201.1	2957.9	2767.3	2662.1
42.5°	3036.8	2984.2	2747.6	2543.8	2425.5
45°	2819.9	2760.7	2524.1	2313.7	2221.7
47.5°	2603.0	2550.4	2333.5	2116.6	2011.4
50°	2372.9	2326.9	2129.7	1912.8	1801.0
52.5°	2182.3	2110.0	1919.4	1702.4	1610.4
55°	1958.8	1899.6	1722.2	1518.4	1439.5
57.5°	1755.0	1695.9	1531.5	1340.9	1275.2
60°	1564.4	1479.0	1340.9	1176.6	1124.0
62.5°	1354.1	1288.3	1170.0	1032.0	1097.7
65°	1163.4	1097.7	992.5	1012.3	841.4
67.5°	953.1	920.2	828.2	736.2	709.9
70°	775.6	736.2	703.3	604.7	578.4
72.5°	617.9	578.4	532.4	479.8	460.1
75°	466.7	433.8	407.5	387.8	427.3
77.5°	322.1	308.9	289.2	269.5	262.9
80°	210.3	203.8	197.2	190.6	184.0
82.5°	124.9	124.9	124.9	124.9	124.9
85°	65.7	72.3	78.9	85.5	92.0
87.5°	39.4	39.4	46.0	52.6	59.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)