

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: P562507

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562507  
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-LD4-2HI-35-UNV-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

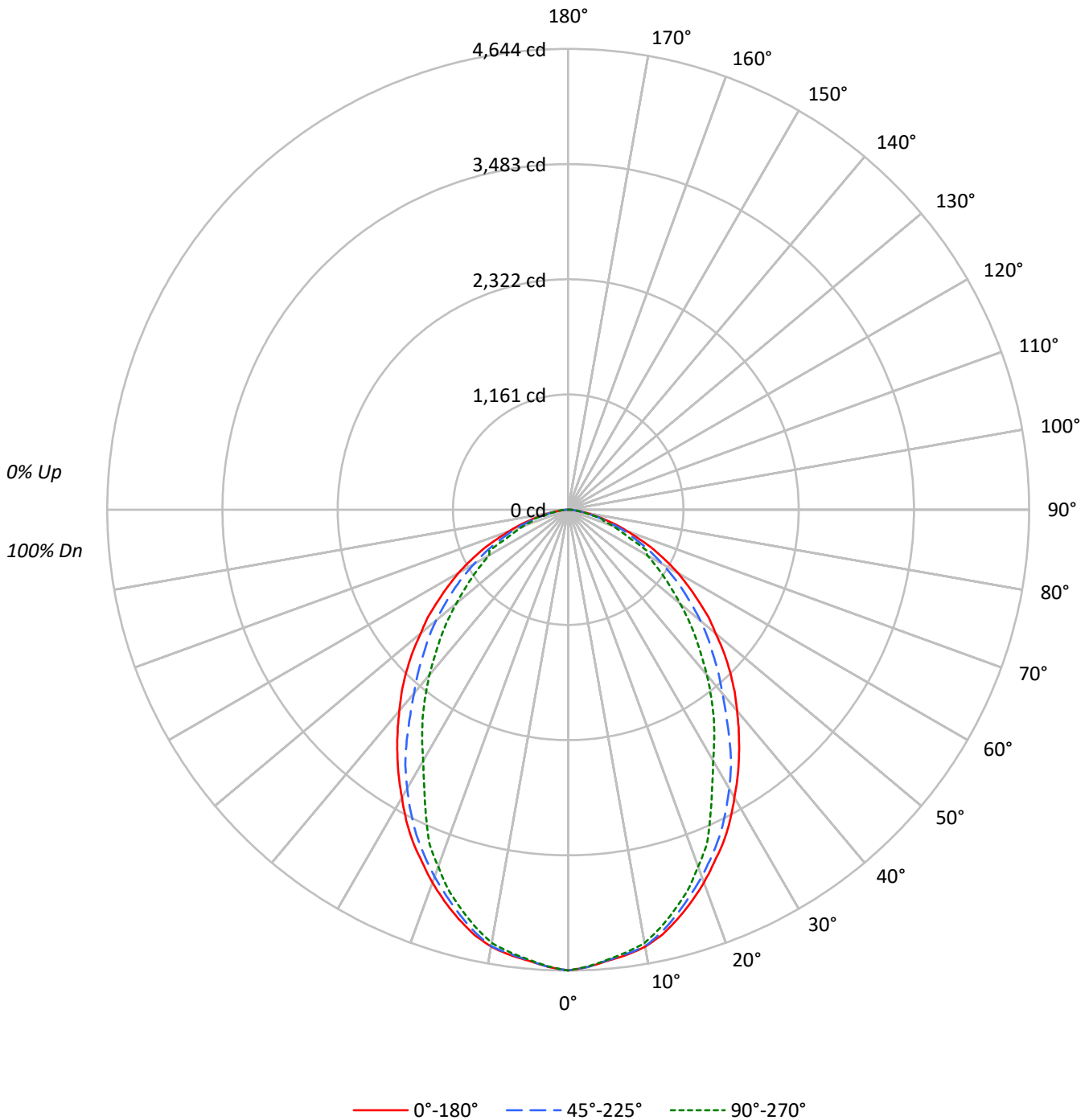
Lumens per Lamp: N/A  
Luminaire Lumens: 9116.0 lumens  
Efficiency: N/A  
Efficacy: 105.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	6248	6248	6248
5°	6163	6156	6148
10°	6110	6102	6058
15°	5945	5885	5803
20°	5727	5634	5481
25°	5491	5372	5037
30°	5204	5038	4537
35°	4929	4656	4197
40°	4649	4243	3819
45°	4382	3922	3453
50°	4057	3641	3079
55°	3753	3299	2758
60°	3438	2947	2470
65°	3025	2581	2188
70°	2492	2260	1858
75°	1981	1730	1814
80°	1331	1247	1165
85°	829	994	1161

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4382 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	432.3	4.7
10°-20°	1186.3	13.0
20°-30°	1642.3	18.0
30°-40°	1751.2	19.2
40°-50°	1597.6	17.5
50°-60°	1251.6	13.7
60°-70°	815.7	8.9
70°-80°	361.4	4.0
80°-90°	77.6	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°	3260.9	35.8
0°-40°	5012.1	55.0
0°-60°	7861.3	86.2
0°-90°	9116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9116.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4644	4644	4644	4644	4644	
5°	4563	4558	4558	4552	4552	433
15°	4268	4268	4225	4182	4166	1200
25°	3699	3677	3618	3489	3393	1698
35°	3001	2979	2834	2620	2555	1876
45°	2303	2255	2061	1890	1814	1774
55°	1600	1551	1406	1240	1176	1435
65°	950	896	811	827	687	936
75°	381	354	333	317	349	408
85°	54	59	64	70	75	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4643.6	4643.6	4643.6	4643.6	4643.6
2.5°	4611.4	4611.4	4611.4	4606.0	4606.0
5°	4563.0	4557.7	4557.7	4552.3	4552.3
7.5°	4525.5	4520.1	4514.7	4509.4	4498.6
10°	4471.8	4471.8	4466.4	4439.6	4434.2
12.5°	4385.9	4380.5	4359.0	4321.5	4310.7
15°	4267.8	4267.8	4224.8	4181.9	4165.8
17.5°	4138.9	4133.6	4079.9	4037.0	4015.5
20°	3999.4	3988.6	3935.0	3865.2	3827.6
22.5°	3843.7	3843.7	3779.3	3688.0	3650.4
25°	3698.8	3677.3	3618.2	3489.4	3392.8
27.5°	3532.3	3500.1	3435.7	3253.2	3140.4
30°	3349.8	3333.7	3242.4	3006.2	2920.3
32.5°	3178.0	3151.2	3054.6	2807.6	2737.8
35°	3000.9	2979.4	2834.5	2619.7	2555.3
37.5°	2823.7	2796.9	2614.4	2442.6	2362.0
40°	2646.6	2614.4	2415.7	2260.0	2174.2
42.5°	2480.1	2437.2	2243.9	2077.5	1980.9
45°	2303.0	2254.7	2061.4	1889.6	1814.5
47.5°	2125.8	2082.9	1905.7	1728.6	1642.7
50°	1938.0	1900.4	1739.3	1562.2	1470.9
52.5°	1782.3	1723.2	1567.5	1390.4	1315.2
55°	1599.7	1551.4	1406.5	1240.1	1175.7
57.5°	1433.3	1385.0	1250.8	1095.1	1041.4
60°	1277.7	1207.9	1095.1	960.9	918.0
62.5°	1105.9	1052.2	955.6	842.8	896.5
65°	950.2	896.5	810.6	826.7	687.1
67.5°	778.4	751.6	676.4	601.2	579.8
70°	633.5	601.2	574.4	493.9	472.4
72.5°	504.6	472.4	434.8	391.9	375.8
75°	381.1	354.3	332.8	316.7	348.9
77.5°	263.0	252.3	236.2	220.1	214.7
80°	171.8	166.4	161.0	155.7	150.3
82.5°	102.0	102.0	102.0	102.0	102.0
85°	53.7	59.1	64.4	69.8	75.2
87.5°	32.2	32.2	37.6	42.9	48.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)