

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: P563947

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563947  
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-40-UNV-93-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

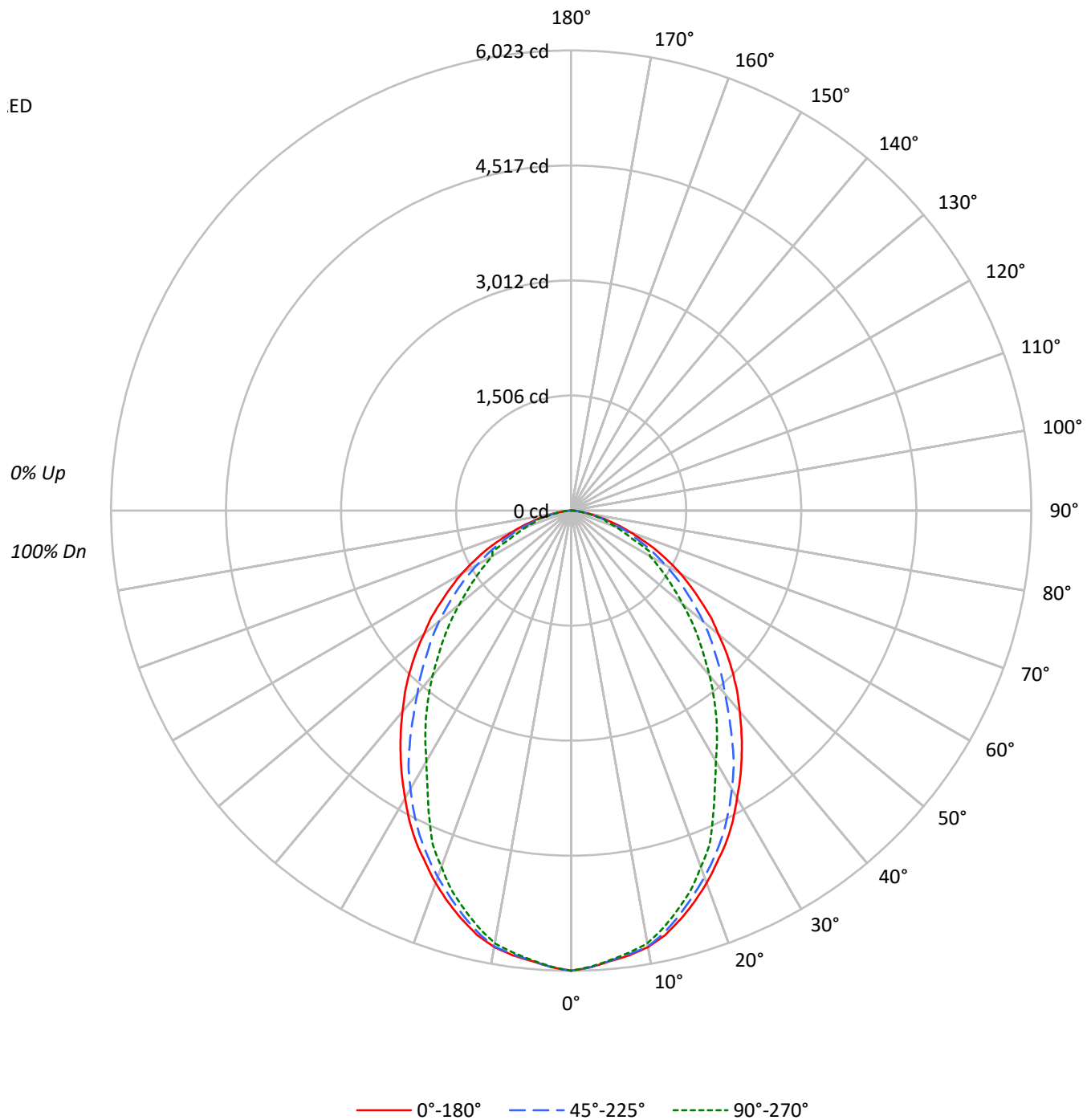
Lumens per Lamp: N/A  
Luminaire Lumens: 11824.0 lumens  
Efficiency: N/A  
Efficacy: 126.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8104	8104	8104
5°	7994	7984	7975
10°	7924	7915	7858
15°	7711	7633	7527
20°	7428	7308	7109
25°	7122	6967	6533
30°	6750	6534	5885
35°	6393	6039	5444
40°	6029	5503	4953
45°	5684	5088	4478
50°	5261	4722	3994
55°	4868	4279	3577
60°	4459	3823	3204
65°	3924	3347	2838
70°	3232	2931	2410
75°	2570	2244	2353
80°	1726	1619	1511
85°	1074	1291	1505

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5684 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	560.7	4.7
10°-20°	1538.7	13.0
20°-30°	2130.2	18.0
30°-40°	2271.4	19.2
40°-50°	2072.2	17.5
50°-60°	1623.4	13.7
60°-70°	1058.0	8.9
70°-80°	468.8	4.0
80°-90°	100.6	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°	4229.5	35.8
0°-40°	6501.0	55.0
0°-60°	10196.6	86.2
0°-90°	11824.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11824.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6023	6023	6023	6023	6023	
5°	5918	5912	5912	5905	5905	562
15°	5536	5536	5480	5424	5403	1556
25°	4798	4770	4693	4526	4401	2203
35°	3892	3864	3676	3398	3314	2433
45°	2987	2924	2674	2451	2354	2301
55°	2075	2012	1824	1608	1525	1861
65°	1232	1163	1051	1072	891	1215
75°	494	460	432	411	453	530
85°	70	77	84	90	98	97
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6023.0	6023.0	6023.0	6023.0	6023.0
2.5°	5981.2	5981.2	5981.2	5974.2	5974.2
5°	5918.5	5911.6	5911.6	5904.6	5904.6
7.5°	5869.8	5862.8	5855.9	5848.9	5835.0
10°	5800.2	5800.2	5793.2	5758.4	5751.4
12.5°	5688.8	5681.8	5653.9	5605.2	5591.3
15°	5535.6	5535.6	5479.9	5424.2	5403.3
17.5°	5368.5	5361.5	5291.9	5236.2	5208.3
20°	5187.4	5173.5	5103.9	5013.4	4964.6
22.5°	4985.5	4985.5	4901.9	4783.6	4734.8
25°	4797.5	4769.6	4693.1	4525.9	4400.6
27.5°	4581.6	4539.9	4456.3	4219.6	4073.4
30°	4344.9	4324.0	4205.6	3899.3	3787.9
32.5°	4122.1	4087.3	3961.9	3641.6	3551.1
35°	3892.3	3864.5	3676.5	3397.9	3314.4
37.5°	3662.5	3627.7	3391.0	3168.2	3063.7
40°	3432.8	3391.0	3133.3	2931.4	2820.0
42.5°	3216.9	3161.2	2910.5	2694.7	2569.3
45°	2987.1	2924.5	2673.8	2451.0	2353.5
47.5°	2757.3	2701.6	2471.9	2242.1	2130.7
50°	2513.6	2464.9	2256.0	2026.2	1907.9
52.5°	2311.7	2235.1	2033.2	1803.4	1705.9
55°	2075.0	2012.3	1824.3	1608.5	1524.9
57.5°	1859.1	1796.5	1622.4	1420.5	1350.8
60°	1657.2	1566.7	1420.5	1246.4	1190.7
62.5°	1434.4	1364.7	1239.4	1093.2	1162.8
65°	1232.4	1162.8	1051.4	1072.3	891.3
67.5°	1009.6	974.8	877.3	779.9	752.0
70°	821.6	779.9	745.0	640.6	612.7
72.5°	654.5	612.7	564.0	508.3	487.4
75°	494.4	459.6	431.7	410.8	452.6
77.5°	341.2	327.3	306.4	285.5	278.5
80°	222.8	215.9	208.9	201.9	195.0
82.5°	132.3	132.3	132.3	132.3	132.3
85°	69.6	76.6	83.6	90.5	97.5
87.5°	41.8	41.8	48.7	55.7	62.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)