

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: P563075

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563075  
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-LD4-3HI-35-UNV-81-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

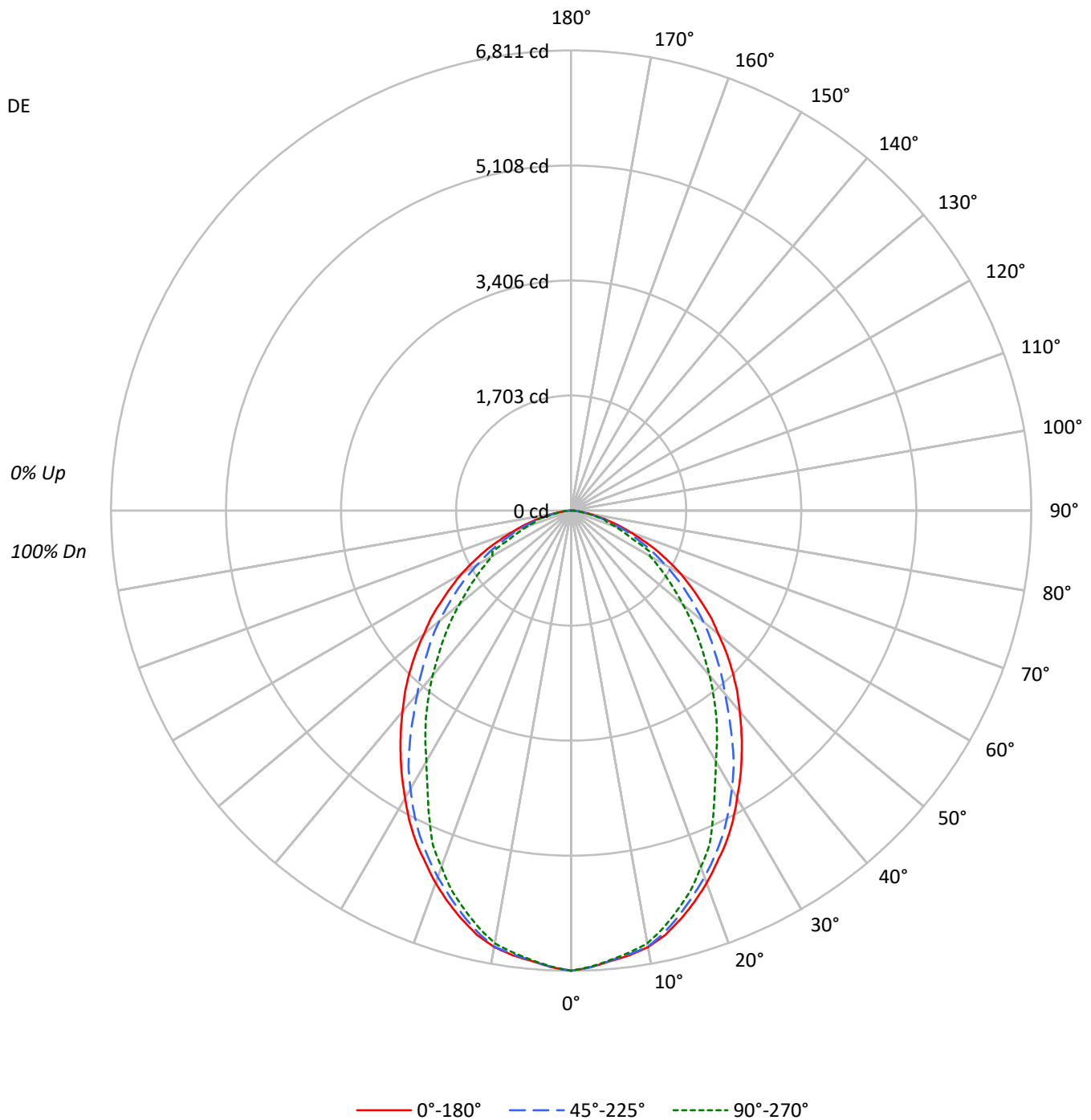
Lumens per Lamp: N/A  
Luminaire Lumens: 13371.0 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9164	9164	9164
5°	9040	9029	9018
10°	8961	8951	8886
15°	8720	8632	8511
20°	8399	8264	8039
25°	8054	7879	7388
30°	7634	7389	6655
35°	7230	6829	6156
40°	6818	6223	5601
45°	6427	5753	5064
50°	5950	5340	4516
55°	5504	4839	4045
60°	5043	4323	3623
65°	4437	3785	3209
70°	3655	3314	2726
75°	2907	2538	2661
80°	1953	1830	1709
85°	1215	1459	1701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6427 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	634.0	4.7
10°-20°	1740.0	13.0
20°-30°	2408.9	18.0
30°-40°	2568.6	19.2
40°-50°	2343.3	17.5
50°-60°	1835.8	13.7
60°-70°	1196.5	8.9
70°-80°	530.1	4.0
80°-90°	113.8	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°	4782.9	35.8
0°-40°	7351.5	55.0
0°-60°	11530.6	86.2
0°-90°	13371.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13371.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6811	6811	6811	6811	6811	
5°	6693	6685	6685	6677	6677	635
15°	6260	6260	6197	6134	6110	1760
25°	5425	5394	5307	5118	4976	2491
35°	4402	4370	4158	3842	3748	2752
45°	3378	3307	3024	2772	2661	2602
55°	2346	2276	2063	1819	1724	2105
65°	1394	1315	1189	1213	1008	1373
75°	559	520	488	465	512	599
85°	79	87	94	102	110	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6811.0	6811.0	6811.0	6811.0	6811.0
2.5°	6763.8	6763.8	6763.8	6755.9	6755.9
5°	6692.9	6685.0	6685.0	6677.2	6677.2
7.5°	6637.8	6629.9	6622.0	6614.2	6598.4
10°	6559.0	6559.0	6551.2	6511.8	6503.9
12.5°	6433.1	6425.2	6393.7	6338.6	6322.8
15°	6259.8	6259.8	6196.8	6133.8	6110.2
17.5°	6070.9	6063.0	5984.2	5921.2	5889.8
20°	5866.1	5850.4	5771.6	5669.3	5614.2
22.5°	5637.8	5637.8	5543.3	5409.4	5354.3
25°	5425.2	5393.7	5307.1	5118.1	4976.4
27.5°	5181.1	5133.8	5039.4	4771.6	4606.3
30°	4913.4	4889.8	4755.9	4409.4	4283.5
32.5°	4661.4	4622.0	4480.3	4118.1	4015.7
35°	4401.6	4370.1	4157.5	3842.5	3748.0
37.5°	4141.7	4102.4	3834.6	3582.7	3464.6
40°	3881.9	3834.6	3543.3	3315.0	3189.0
42.5°	3637.8	3574.8	3291.3	3047.2	2905.5
45°	3377.9	3307.1	3023.6	2771.6	2661.4
47.5°	3118.1	3055.1	2795.3	2535.4	2409.4
50°	2842.5	2787.4	2551.2	2291.3	2157.5
52.5°	2614.2	2527.6	2299.2	2039.4	1929.1
55°	2346.5	2275.6	2063.0	1818.9	1724.4
57.5°	2102.4	2031.5	1834.6	1606.3	1527.6
60°	1874.0	1771.6	1606.3	1409.4	1346.5
62.5°	1622.0	1543.3	1401.6	1236.2	1315.0
65°	1393.7	1315.0	1189.0	1212.6	1007.9
67.5°	1141.7	1102.4	992.1	881.9	850.4
70°	929.1	881.9	842.5	724.4	692.9
72.5°	740.2	692.9	637.8	574.8	551.2
75°	559.1	519.7	488.2	464.6	511.8
77.5°	385.8	370.1	346.5	322.8	315.0
80°	252.0	244.1	236.2	228.3	220.5
82.5°	149.6	149.6	149.6	149.6	149.6
85°	78.7	86.6	94.5	102.4	110.2
87.5°	47.2	47.2	55.1	63.0	70.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)