

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: P564035

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564035  
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-LD4-4STD-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**

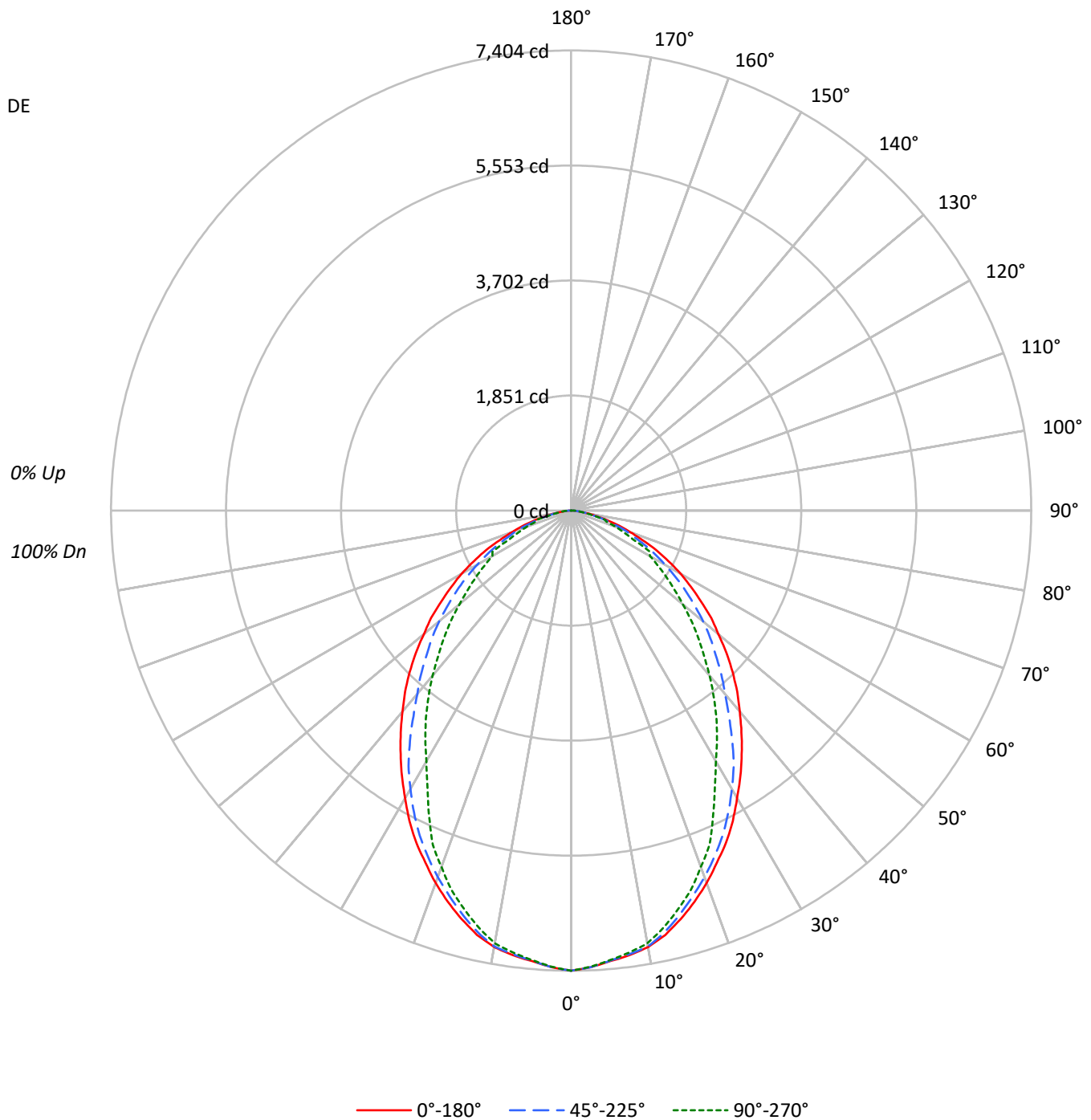
Lumens per Lamp: N/A  
Luminaire Lumens: 14535.0 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9962	9962	9962
5°	9827	9815	9803
10°	9741	9730	9659
15°	9479	9383	9252
20°	9131	8984	8738
25°	8755	8565	8031
30°	8298	8032	7234
35°	7859	7423	6692
40°	7412	6765	6089
45°	6987	6254	5505
50°	6468	5805	4909
55°	5983	5261	4397
60°	5482	4699	3939
65°	4823	4115	3488
70°	3973	3603	2963
75°	3159	2759	2892
80°	2122	1990	1857
85°	1321	1585	1849

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6987 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	689.2	4.7
10°-20°	1891.5	13.0
20°-30°	2618.6	18.0
30°-40°	2792.2	19.2
40°-50°	2547.3	17.5
50°-60°	1995.6	13.7
60°-70°	1300.6	8.9
70°-80°	576.2	4.0
80°-90°	123.7	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°	5199.3	35.8
0°-40°	7991.5	55.0
0°-60°	12534.4	86.2
0°-90°	14535.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14535.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7404	7404	7404	7404	7404	
5°	7276	7267	7267	7258	7258	691
15°	6805	6805	6736	6668	6642	1913
25°	5898	5863	5769	5564	5410	2708
35°	4785	4750	4519	4177	4074	2991
45°	3672	3595	3287	3013	2893	2829
55°	2551	2474	2243	1977	1874	2288
65°	1515	1429	1292	1318	1096	1493
75°	608	565	531	505	556	651
85°	86	94	103	111	120	119
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7403.9	7403.9	7403.9	7403.9	7403.9
2.5°	7352.6	7352.6	7352.6	7344.0	7344.0
5°	7275.5	7267.0	7267.0	7258.4	7258.4
7.5°	7215.6	7207.1	7198.5	7189.9	7172.8
10°	7130.0	7130.0	7121.5	7078.7	7070.1
12.5°	6993.1	6984.5	6950.3	6890.4	6873.2
15°	6804.8	6804.8	6736.3	6667.8	6642.1
17.5°	6599.3	6590.8	6505.2	6436.7	6402.5
20°	6376.8	6359.7	6274.1	6162.8	6102.9
22.5°	6128.6	6128.6	6025.9	5880.4	5820.4
25°	5897.5	5863.2	5769.1	5563.7	5409.6
27.5°	5632.1	5580.8	5478.1	5187.0	5007.3
30°	5341.1	5315.4	5169.9	4793.3	4656.3
32.5°	5067.2	5024.4	4870.3	4476.6	4365.3
35°	4784.7	4750.5	4519.4	4177.0	4074.3
37.5°	4502.3	4459.5	4168.5	3894.6	3766.2
40°	4219.8	4168.5	3851.8	3603.5	3466.6
42.5°	3954.5	3886.0	3577.9	3312.5	3158.4
45°	3672.0	3595.0	3286.8	3012.9	2893.1
47.5°	3389.5	3321.1	3038.6	2756.1	2619.2
50°	3090.0	3030.0	2773.3	2490.8	2345.3
52.5°	2841.7	2747.6	2499.4	2216.9	2097.1
55°	2550.7	2473.7	2242.6	1977.2	1874.5
57.5°	2285.4	2208.3	1994.4	1746.1	1660.5
60°	2037.2	1925.9	1746.1	1532.1	1463.7
62.5°	1763.2	1677.7	1523.6	1343.8	1429.4
65°	1515.0	1429.4	1292.5	1318.2	1095.6
67.5°	1241.1	1198.3	1078.5	958.7	924.4
70°	1010.0	958.7	915.9	787.5	753.2
72.5°	804.6	753.2	693.3	624.8	599.2
75°	607.7	564.9	530.7	505.0	556.4
77.5°	419.4	402.3	376.6	350.9	342.4
80°	273.9	265.3	256.8	248.2	239.7
82.5°	162.6	162.6	162.6	162.6	162.6
85°	85.6	94.2	102.7	111.3	119.8
87.5°	51.4	51.4	59.9	68.5	77.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)