

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: P563285

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563285  
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-LD4-3LO-35-UNV-82-86-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

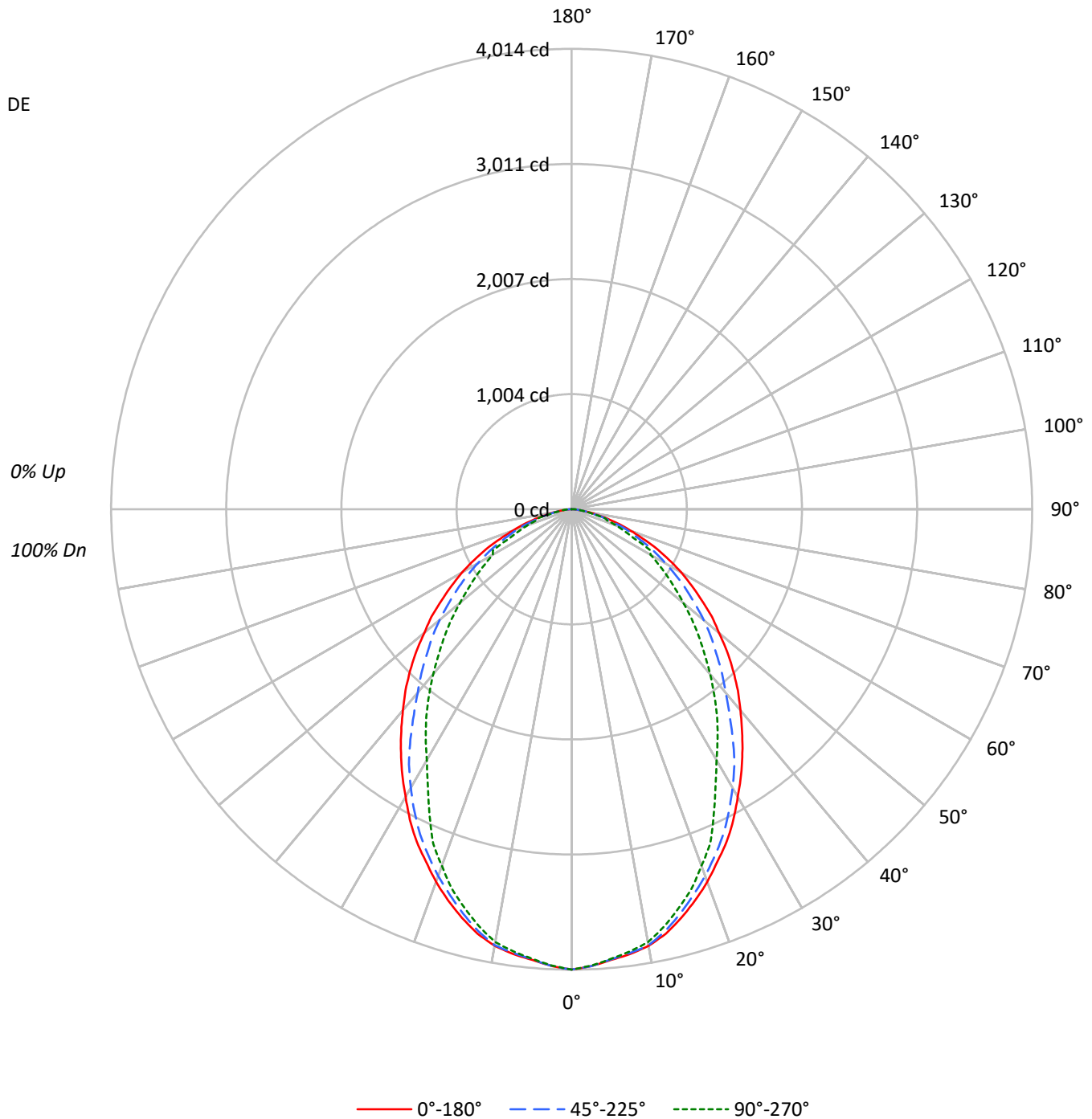
Lumens per Lamp: N/A  
Luminaire Lumens: 7879.0 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5400	5400	5400
5°	5327	5320	5314
10°	5281	5274	5236
15°	5138	5087	5015
20°	4949	4870	4737
25°	4746	4643	4353
30°	4498	4354	3922
35°	4260	4024	3628
40°	4018	3667	3300
45°	3788	3390	2984
50°	3506	3147	2661
55°	3244	2852	2384
60°	2972	2547	2135
65°	2615	2230	1891
70°	2154	1953	1606
75°	1712	1496	1568
80°	1151	1079	1007
85°	716	860	1003

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3788 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	373.6	4.7
10°-20°	1025.3	13.0
20°-30°	1419.5	18.0
30°-40°	1513.6	19.2
40°-50°	1380.8	17.5
50°-60°	1081.8	13.7
60°-70°	705.1	8.9
70°-80°	312.4	4.0
80°-90°	67.1	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°	2818.4	35.8
0°-40°	4332.0	55.0
0°-60°	6794.5	86.2
0°-90°	7879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7879.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4014	4014	4014	4014	4014	
5°	3944	3939	3939	3935	3935	374
15°	3689	3689	3652	3614	3600	1037
25°	3197	3178	3127	3016	2932	1468
35°	2594	2575	2450	2264	2209	1622
45°	1990	1949	1782	1633	1568	1533
55°	1383	1341	1216	1072	1016	1240
65°	821	775	701	714	594	809
75°	329	306	288	274	302	353
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4013.5	4013.5	4013.5	4013.5	4013.5
2.5°	3985.6	3985.6	3985.6	3981.0	3981.0
5°	3943.9	3939.2	3939.2	3934.6	3934.6
7.5°	3911.4	3906.7	3902.1	3897.5	3888.2
10°	3865.0	3865.0	3860.3	3837.1	3832.5
12.5°	3790.7	3786.1	3767.5	3735.1	3725.8
15°	3688.7	3688.7	3651.6	3614.4	3600.5
17.5°	3577.3	3572.7	3526.3	3489.2	3470.6
20°	3456.7	3447.4	3401.0	3340.7	3308.2
22.5°	3322.1	3322.1	3266.4	3187.6	3155.1
25°	3196.8	3178.3	3127.2	3015.9	2932.4
27.5°	3053.0	3025.2	2969.5	2811.7	2714.3
30°	2895.3	2881.3	2802.5	2598.3	2524.1
32.5°	2746.8	2723.6	2640.1	2426.6	2366.3
35°	2593.7	2575.1	2449.8	2264.2	2208.6
37.5°	2440.6	2417.4	2259.6	2111.1	2041.5
40°	2287.4	2259.6	2087.9	1953.4	1879.1
42.5°	2143.6	2106.5	1939.5	1795.6	1712.1
45°	1990.5	1948.7	1781.7	1633.2	1568.3
47.5°	1837.4	1800.3	1647.1	1494.0	1419.8
50°	1675.0	1642.5	1503.3	1350.2	1271.3
52.5°	1540.4	1489.4	1354.8	1201.7	1136.8
55°	1382.7	1340.9	1215.6	1071.8	1016.1
57.5°	1238.8	1197.1	1081.1	946.5	900.1
60°	1104.3	1044.0	946.5	830.5	793.4
62.5°	955.8	909.4	825.9	728.5	774.9
65°	821.3	774.9	700.6	714.5	593.9
67.5°	672.8	649.6	584.6	519.7	501.1
70°	547.5	519.7	496.5	426.9	408.3
72.5°	436.1	408.3	375.8	338.7	324.8
75°	329.4	306.2	287.7	273.8	301.6
77.5°	227.4	218.1	204.2	190.2	185.6
80°	148.5	143.8	139.2	134.6	129.9
82.5°	88.2	88.2	88.2	88.2	88.2
85°	46.4	51.0	55.7	60.3	65.0
87.5°	27.8	27.8	32.5	37.1	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)