

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: P561475

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561475  
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-12-4-LD4-2HI-50-UNV-81-85-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

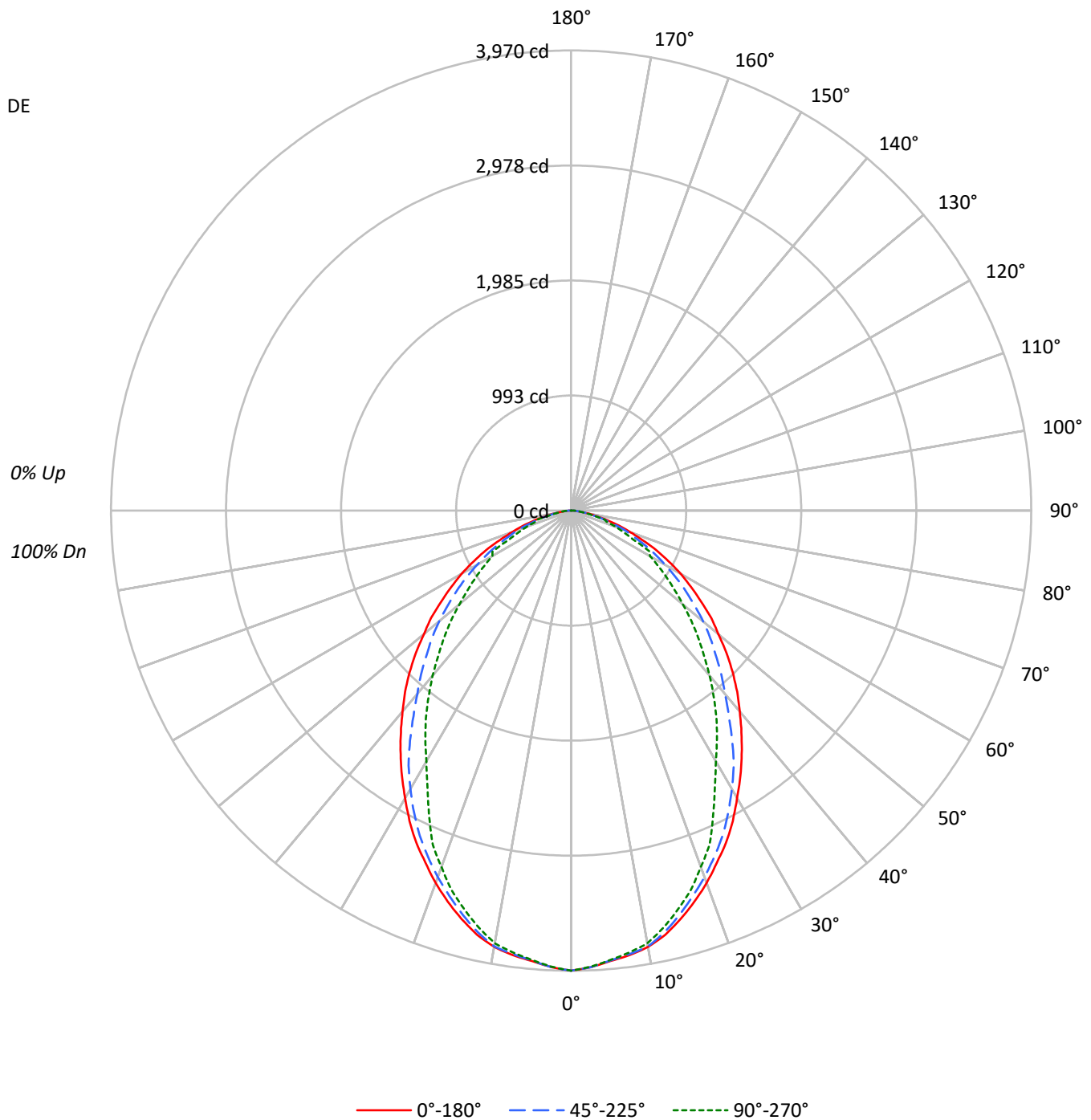
Lumens per Lamp: N/A  
Luminaire Lumens: 7793.0 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10682	10682	10682
5°	10537	10525	10512
10°	10446	10433	10358
15°	10164	10062	9921
20°	9791	9633	9370
25°	9389	9184	8612
30°	8898	8613	7757
35°	8428	7960	7176
40°	7948	7254	6529
45°	7493	6706	5903
50°	6936	6225	5264
55°	6416	5641	4715
60°	5878	5039	4224
65°	5172	4413	3740
70°	4260	3863	3177
75°	3387	2958	3101
80°	2276	2134	1991
85°	1417	1701	1982

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7493 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	369.5	4.7
10°-20°	1014.1	13.0
20°-30°	1404.0	18.0
30°-40°	1497.0	19.2
40°-50°	1365.7	17.5
50°-60°	1070.0	13.7
60°-70°	697.3	8.9
70°-80°	309.0	4.0
80°-90°	66.3	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°	2787.6	35.8
0°-40°	4284.7	55.0
0°-60°	6720.4	86.2
0°-90°	7793.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7793.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3970	3970	3970	3970	3970	
5°	3901	3896	3896	3892	3892	370
15°	3648	3648	3612	3575	3561	1026
25°	3162	3144	3093	2983	2900	1452
35°	2565	2547	2423	2240	2184	1604
45°	1969	1928	1762	1615	1551	1517
55°	1368	1326	1202	1060	1005	1227
65°	812	766	693	707	587	801
75°	326	303	284	271	298	349
85°	46	50	55	60	64	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3969.7	3969.7	3969.7	3969.7	3969.7
2.5°	3942.1	3942.1	3942.1	3937.5	3937.5
5°	3900.8	3896.2	3896.2	3891.6	3891.6
7.5°	3868.7	3864.1	3859.5	3854.9	3845.7
10°	3822.8	3822.8	3818.2	3795.3	3790.7
12.5°	3749.4	3744.8	3726.4	3694.3	3685.1
15°	3648.4	3648.4	3611.7	3575.0	3561.2
17.5°	3538.3	3533.7	3487.8	3451.1	3432.7
20°	3418.9	3409.8	3363.9	3304.2	3272.1
22.5°	3285.9	3285.9	3230.8	3152.8	3120.6
25°	3162.0	3143.6	3093.1	2983.0	2900.4
27.5°	3019.7	2992.2	2937.1	2781.0	2684.7
30°	2863.7	2849.9	2771.9	2569.9	2496.5
32.5°	2716.8	2693.9	2611.2	2400.1	2340.5
35°	2565.4	2547.0	2423.1	2239.5	2184.5
37.5°	2413.9	2391.0	2234.9	2088.1	2019.2
40°	2262.5	2234.9	2065.1	1932.0	1858.6
42.5°	2120.2	2083.5	1918.3	1776.0	1693.4
45°	1968.8	1927.5	1762.2	1615.4	1551.1
47.5°	1817.3	1780.6	1629.2	1477.7	1404.3
50°	1656.7	1624.6	1486.9	1335.5	1257.4
52.5°	1523.6	1473.1	1340.0	1188.6	1124.4
55°	1367.6	1326.3	1202.4	1060.1	1005.0
57.5°	1225.3	1184.0	1069.3	936.2	890.3
60°	1092.2	1032.6	936.2	821.5	784.8
62.5°	945.4	899.5	816.9	720.5	766.4
65°	812.3	766.4	693.0	706.7	587.4
67.5°	665.4	642.5	578.2	514.0	495.6
70°	541.5	514.0	491.0	422.2	403.8
72.5°	431.4	403.8	371.7	335.0	321.2
75°	325.8	302.9	284.5	270.8	298.3
77.5°	224.9	215.7	201.9	188.2	183.6
80°	146.9	142.3	137.7	133.1	128.5
82.5°	87.2	87.2	87.2	87.2	87.2
85°	45.9	50.5	55.1	59.7	64.2
87.5°	27.5	27.5	32.1	36.7	41.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)