

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: P560322

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560322  
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-12-2-LD4-2HI-50-UNV-81-85-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

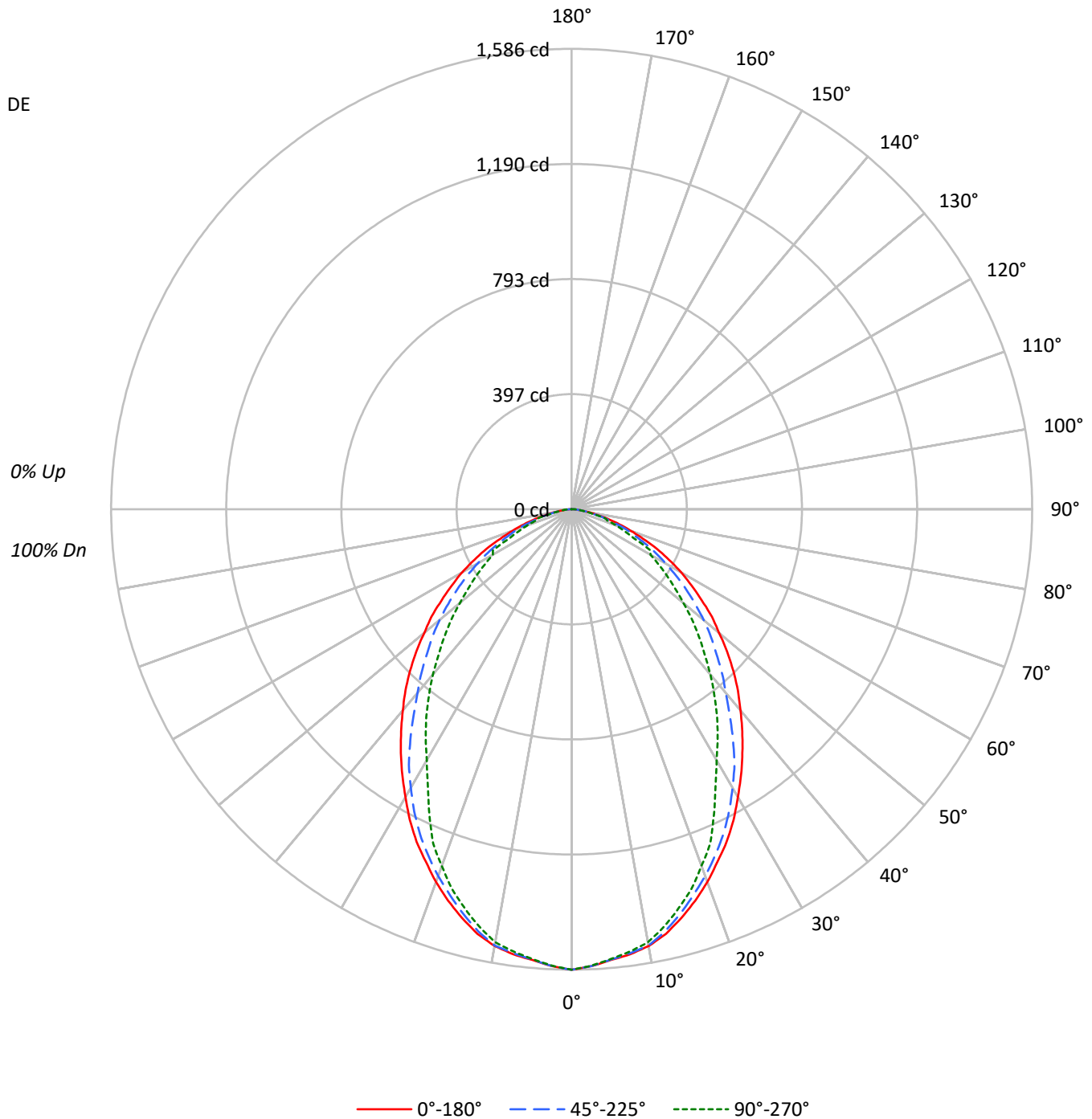
Lumens per Lamp: N/A  
Luminaire Lumens: 3114.0 lumens  
Efficiency: N/A  
Efficacy: 72.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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	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°	8537	8537	8537
5°	8421	8411	8401
10°	8348	8338	8278
15°	8123	8041	7929
20°	7825	7699	7489
25°	7503	7340	6883
30°	7111	6883	6200
35°	6735	6361	5735
40°	6352	5798	5218
45°	5988	5360	4717
50°	5543	4974	4207
55°	5128	4509	3768
60°	4697	4027	3376
65°	4134	3526	2989
70°	3405	3087	2540
75°	2707	2364	2479
80°	1819	1705	1590
85°	1130	1359	1587

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5988 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.7	4.7
10°-20°	405.2	13.0
20°-30°	561.0	18.0
30°-40°	598.2	19.2
40°-50°	545.7	17.5
50°-60°	427.5	13.7
60°-70°	278.6	8.9
70°-80°	123.5	4.0
80°-90°	26.5	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°	1113.9	35.8
0°-40°	1712.1	55.0
0°-60°	2685.4	86.2
0°-90°	3114.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3114.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1586	1586	1586	1586	1586	
5°	1559	1557	1557	1555	1555	148
15°	1458	1458	1443	1428	1423	410
25°	1264	1256	1236	1192	1159	580
35°	1025	1018	968	895	873	641
45°	787	770	704	646	620	606
55°	546	530	480	424	402	490
65°	325	306	277	282	235	320
75°	130	121	114	108	119	140
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1586.2	1586.2	1586.2	1586.2	1586.2
2.5°	1575.2	1575.2	1575.2	1573.4	1573.4
5°	1558.7	1556.9	1556.9	1555.1	1555.1
7.5°	1545.9	1544.1	1542.2	1540.4	1536.7
10°	1527.5	1527.5	1525.7	1516.5	1514.7
12.5°	1498.2	1496.4	1489.0	1476.2	1472.5
15°	1457.9	1457.9	1443.2	1428.5	1423.0
17.5°	1413.9	1412.0	1393.7	1379.0	1371.7
20°	1366.2	1362.5	1344.2	1320.3	1307.5
22.5°	1313.0	1313.0	1291.0	1259.8	1247.0
25°	1263.5	1256.1	1236.0	1192.0	1159.0
27.5°	1206.6	1195.6	1173.6	1111.3	1072.8
30°	1144.3	1138.8	1107.6	1026.9	997.6
32.5°	1085.6	1076.4	1043.4	959.1	935.2
35°	1025.1	1017.8	968.2	894.9	872.9
37.5°	964.6	955.4	893.1	834.4	806.9
40°	904.1	893.1	825.2	772.0	742.7
42.5°	847.2	832.5	766.5	709.7	676.7
45°	786.7	770.2	704.2	645.5	619.8
47.5°	726.2	711.5	651.0	590.5	561.1
50°	662.0	649.2	594.1	533.6	502.5
52.5°	608.8	588.6	535.5	475.0	449.3
55°	546.5	530.0	480.5	423.6	401.6
57.5°	489.6	473.1	427.3	374.1	355.8
60°	436.4	412.6	374.1	328.2	313.6
62.5°	377.8	359.4	326.4	287.9	306.2
65°	324.6	306.2	276.9	282.4	234.7
67.5°	265.9	256.7	231.1	205.4	198.0
70°	216.4	205.4	196.2	168.7	161.4
72.5°	172.4	161.4	148.5	133.9	128.4
75°	130.2	121.0	113.7	108.2	119.2
77.5°	89.9	86.2	80.7	75.2	73.4
80°	58.7	56.8	55.0	53.2	51.3
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.2	22.0	23.8	25.7
87.5°	11.0	11.0	12.8	14.7	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)