

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: P560709

Luminaire Tested: FSR-12-2-LD4-2STD-50-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560709  
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-LD4-2STD-50-UNV-81-86-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

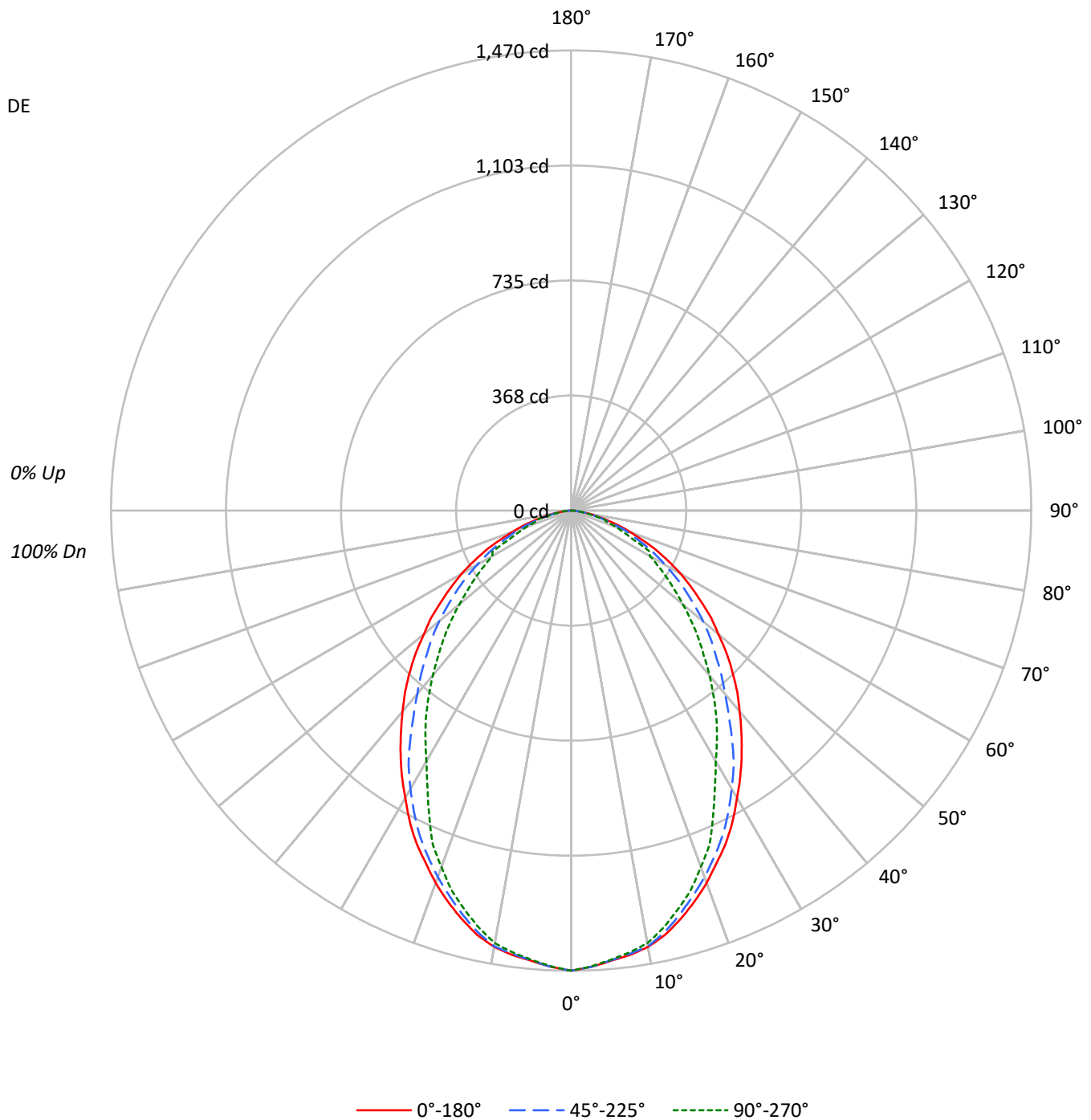
Lumens per Lamp: N/A  
Luminaire Lumens: 2885.0 lumens  
Efficiency: N/A  
Efficacy: 86.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7909	7909	7909
5°	7802	7793	7783
10°	7734	7725	7669
15°	7526	7450	7346
20°	7249	7132	6938
25°	6951	6800	6376
30°	6588	6377	5743
35°	6240	5893	5313
40°	5885	5371	4834
45°	5547	4966	4370
50°	5135	4609	3898
55°	4751	4176	3491
60°	4352	3731	3127
65°	3829	3266	2770
70°	3155	2861	2353
75°	2508	2190	2296
80°	1686	1581	1475
85°	1050	1260	1470

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5547 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.8	4.7
10°-20°	375.4	13.0
20°-30°	519.8	18.0
30°-40°	554.2	19.2
40°-50°	505.6	17.5
50°-60°	396.1	13.7
60°-70°	258.2	8.9
70°-80°	114.4	4.0
80°-90°	24.6	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°	1032.0	35.8
0°-40°	1586.2	55.0
0°-60°	2487.9	86.2
0°-90°	2885.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2885.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1470	1470	1470	1470	1470	
5°	1444	1442	1442	1441	1441	137
15°	1351	1351	1337	1324	1318	380
25°	1171	1164	1145	1104	1074	537
35°	950	943	897	829	809	594
45°	729	714	652	598	574	561
55°	506	491	445	392	372	454
65°	301	284	256	262	218	296
75°	121	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1469.6	1469.6	1469.6	1469.6	1469.6
2.5°	1459.4	1459.4	1459.4	1457.7	1457.7
5°	1444.1	1442.4	1442.4	1440.7	1440.7
7.5°	1432.2	1430.5	1428.8	1427.1	1423.7
10°	1415.2	1415.2	1413.5	1405.0	1403.3
12.5°	1388.0	1386.3	1379.5	1367.6	1364.2
15°	1350.7	1350.7	1337.1	1323.5	1318.4
17.5°	1309.9	1308.2	1291.2	1277.6	1270.8
20°	1265.7	1262.3	1245.3	1223.2	1211.3
22.5°	1216.4	1216.4	1196.1	1167.2	1155.3
25°	1170.6	1163.8	1145.1	1104.3	1073.7
27.5°	1117.9	1107.7	1087.3	1029.6	993.9
30°	1060.1	1055.0	1026.2	951.4	924.2
32.5°	1005.8	997.3	966.7	888.5	866.5
35°	949.7	942.9	897.0	829.1	808.7
37.5°	893.6	885.1	827.4	773.0	747.5
40°	837.6	827.4	764.5	715.3	688.1
42.5°	784.9	771.3	710.2	657.5	626.9
45°	728.8	713.6	652.4	598.0	574.2
47.5°	672.8	659.2	603.1	547.1	519.9
50°	613.3	601.4	550.5	494.4	465.5
52.5°	564.0	545.4	496.1	440.0	416.2
55°	506.3	491.0	445.1	392.5	372.1
57.5°	453.6	438.3	395.9	346.6	329.6
60°	404.3	382.3	346.6	304.1	290.5
62.5°	350.0	333.0	302.4	266.7	283.7
65°	300.7	283.7	256.5	261.6	217.5
67.5°	246.3	237.9	214.1	190.3	183.5
70°	200.5	190.3	181.8	156.3	149.5
72.5°	159.7	149.5	137.6	124.0	118.9
75°	120.6	112.1	105.3	100.2	110.4
77.5°	83.2	79.9	74.8	69.7	68.0
80°	54.4	52.7	51.0	49.3	47.6
82.5°	32.3	32.3	32.3	32.3	32.3
85°	17.0	18.7	20.4	22.1	23.8
87.5°	10.2	10.2	11.9	13.6	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)