

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: P561283

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561283  
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-LD4-1STD-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**

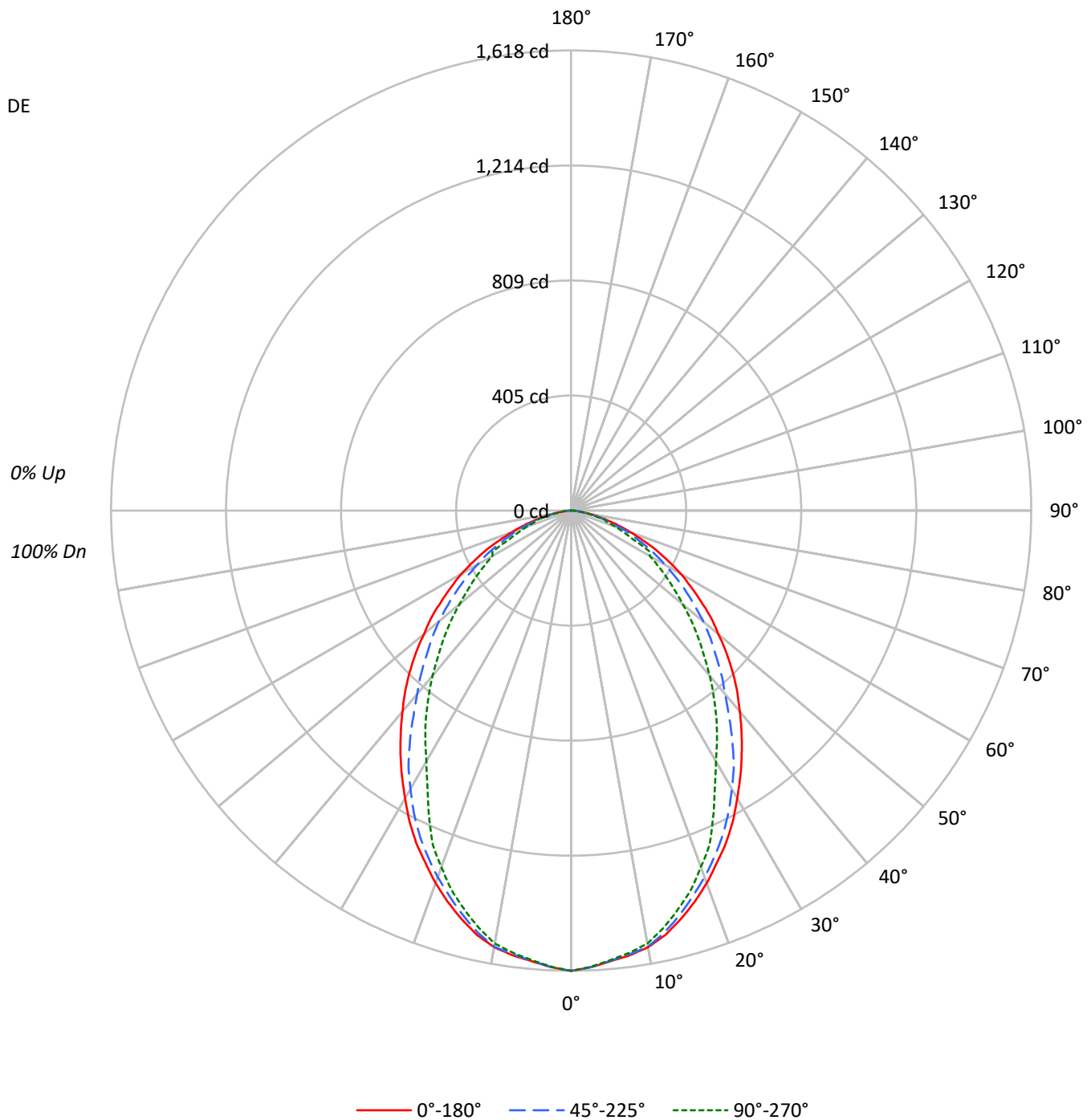
Lumens per Lamp: N/A  
Luminaire Lumens: 3177.0 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4355	4355	4355
5°	4296	4291	4286
10°	4259	4253	4223
15°	4144	4102	4045
20°	3991	3927	3820
25°	3827	3744	3511
30°	3627	3511	3163
35°	3436	3245	2925
40°	3240	2957	2662
45°	3054	2734	2407
50°	2828	2538	2146
55°	2616	2300	1922
60°	2397	2054	1722
65°	2108	1799	1525
70°	1737	1575	1295
75°	1381	1206	1264
80°	928	869	812
85°	577	695	809

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3054 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.6	4.7
10°-20°	413.4	13.0
20°-30°	572.4	18.0
30°-40°	610.3	19.2
40°-50°	556.8	17.5
50°-60°	436.2	13.7
60°-70°	284.3	8.9
70°-80°	125.9	4.0
80°-90°	27.0	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°	1136.4	35.8
0°-40°	1746.7	55.0
0°-60°	2739.7	86.2
0°-90°	3177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3177.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1618	1618	1618	1618	1618	
5°	1590	1588	1588	1586	1586	151
15°	1487	1487	1472	1457	1452	418
25°	1289	1282	1261	1216	1182	592
35°	1046	1038	988	913	890	654
45°	803	786	718	659	632	618
55°	558	541	490	432	410	500
65°	331	312	282	288	240	326
75°	133	124	116	110	122	142
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1618.3	1618.3	1618.3	1618.3	1618.3
2.5°	1607.1	1607.1	1607.1	1605.2	1605.2
5°	1590.3	1588.4	1588.4	1586.5	1586.5
7.5°	1577.2	1575.3	1573.4	1571.5	1567.8
10°	1558.5	1558.5	1556.6	1547.2	1545.4
12.5°	1528.5	1526.6	1519.2	1506.1	1502.3
15°	1487.4	1487.4	1472.4	1457.4	1451.8
17.5°	1442.5	1440.6	1421.9	1406.9	1399.4
20°	1393.8	1390.1	1371.4	1347.0	1333.9
22.5°	1339.6	1339.6	1317.1	1285.3	1272.2
25°	1289.0	1281.6	1261.0	1216.1	1182.4
27.5°	1231.0	1219.8	1197.4	1133.8	1094.5
30°	1167.4	1161.8	1130.0	1047.7	1017.8
32.5°	1107.6	1098.2	1064.5	978.5	954.2
35°	1045.8	1038.3	987.8	913.0	890.5
37.5°	984.1	974.7	911.1	851.3	823.2
40°	922.3	911.1	841.9	787.6	757.7
42.5°	864.4	849.4	782.0	724.0	690.4
45°	802.6	785.8	718.4	658.6	632.4
47.5°	740.9	725.9	664.2	602.4	572.5
50°	675.4	662.3	606.2	544.4	512.6
52.5°	621.1	600.6	546.3	484.6	458.4
55°	557.5	540.7	490.2	432.2	409.7
57.5°	499.5	482.7	435.9	381.7	363.0
60°	445.3	421.0	381.7	334.9	319.9
62.5°	385.4	366.7	333.0	293.7	312.4
65°	331.1	312.4	282.5	288.1	239.5
67.5°	271.3	261.9	235.7	209.5	202.1
70°	220.8	209.5	200.2	172.1	164.6
72.5°	175.9	164.6	151.5	136.6	131.0
75°	132.8	123.5	116.0	110.4	121.6
77.5°	91.7	87.9	82.3	76.7	74.8
80°	59.9	58.0	56.1	54.3	52.4
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.6	22.5	24.3	26.2
87.5°	11.2	11.2	13.1	15.0	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)