

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: P562440

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562440  
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-LD4-1STD-50-UNV-81-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

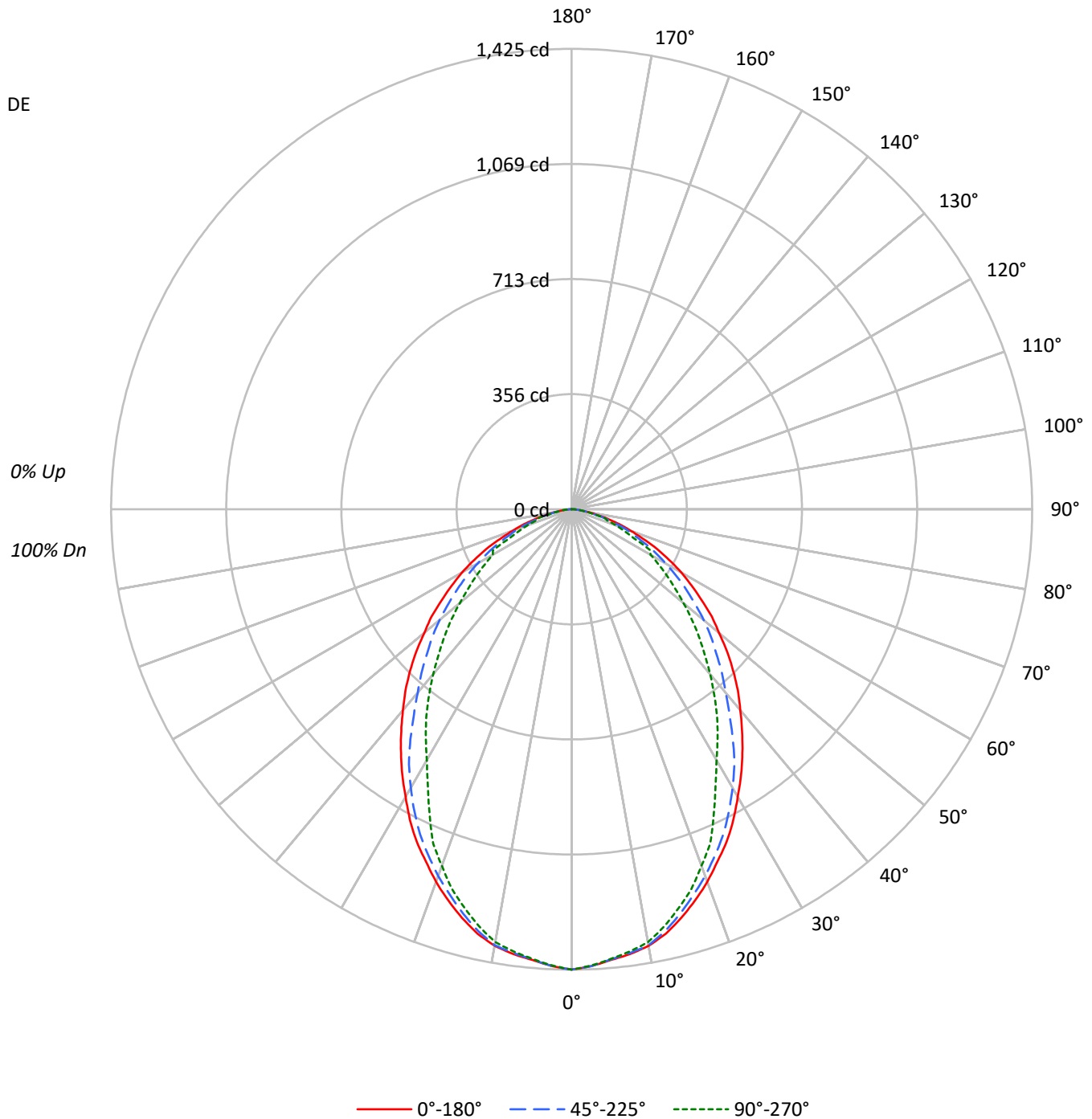
Lumens per Lamp: N/A  
Luminaire Lumens: 2797.0 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	1917	1917	1917
5°	1891	1889	1887
10°	1874	1872	1859
15°	1824	1806	1780
20°	1757	1729	1682
25°	1685	1648	1545
30°	1597	1546	1392
35°	1512	1429	1288
40°	1426	1302	1172
45°	1345	1204	1059
50°	1245	1117	945
55°	1151	1012	846
60°	1055	904	758
65°	928	792	671
70°	765	693	570
75°	608	531	557
80°	408	383	357
85°	255	306	357

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1345 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.6	4.7
10°-20°	364.0	13.0
20°-30°	503.9	18.0
30°-40°	537.3	19.2
40°-50°	490.2	17.5
50°-60°	384.0	13.7
60°-70°	250.3	8.9
70°-80°	110.9	4.0
80°-90°	23.8	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°	1000.5	35.8
0°-40°	1537.8	55.0
0°-60°	2412.0	86.2
0°-90°	2797.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2797.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1425	1425	1425	1425	1425	
5°	1400	1398	1398	1397	1397	133
15°	1310	1310	1296	1283	1278	368
25°	1135	1128	1110	1071	1041	521
35°	921	914	870	804	784	576
45°	707	692	632	580	557	544
55°	491	476	432	380	361	440
65°	292	275	249	254	211	287
75°	117	109	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1424.8	1424.8	1424.8	1424.8	1424.8
2.5°	1414.9	1414.9	1414.9	1413.2	1413.2
5°	1400.0	1398.4	1398.4	1396.8	1396.8
7.5°	1388.5	1386.9	1385.2	1383.6	1380.3
10°	1372.0	1372.0	1370.4	1362.2	1360.5
12.5°	1345.7	1344.0	1337.5	1325.9	1322.6
15°	1309.5	1309.5	1296.3	1283.1	1278.2
17.5°	1269.9	1268.3	1251.8	1238.6	1232.0
20°	1227.1	1223.8	1207.3	1185.9	1174.4
22.5°	1179.3	1179.3	1159.6	1131.6	1120.0
25°	1134.9	1128.3	1110.2	1070.6	1041.0
27.5°	1083.8	1073.9	1054.2	998.2	963.6
30°	1027.8	1022.9	994.9	922.4	896.0
32.5°	975.1	966.9	937.2	861.4	840.0
35°	920.7	914.1	869.7	803.8	784.0
37.5°	866.4	858.1	802.1	749.4	724.7
40°	812.0	802.1	741.2	693.4	667.1
42.5°	761.0	747.8	688.5	637.4	607.8
45°	706.6	691.8	632.5	579.8	556.7
47.5°	652.3	639.1	584.7	530.4	504.0
50°	594.6	583.1	533.7	479.3	451.3
52.5°	546.8	528.7	481.0	426.6	403.5
55°	490.8	476.0	431.5	380.5	360.7
57.5°	439.8	425.0	383.8	336.0	319.5
60°	392.0	370.6	336.0	294.8	281.7
62.5°	339.3	322.8	293.2	258.6	275.1
65°	291.5	275.1	248.7	253.7	210.8
67.5°	238.8	230.6	207.5	184.5	177.9
70°	194.4	184.5	176.2	151.5	144.9
72.5°	154.8	144.9	133.4	120.2	115.3
75°	116.9	108.7	102.1	97.2	107.1
77.5°	80.7	77.4	72.5	67.5	65.9
80°	52.7	51.1	49.4	47.8	46.1
82.5°	31.3	31.3	31.3	31.3	31.3
85°	16.5	18.1	19.8	21.4	23.1
87.5°	9.9	9.9	11.5	13.2	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)