

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: P562334

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562334  
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-35-UNV-82-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

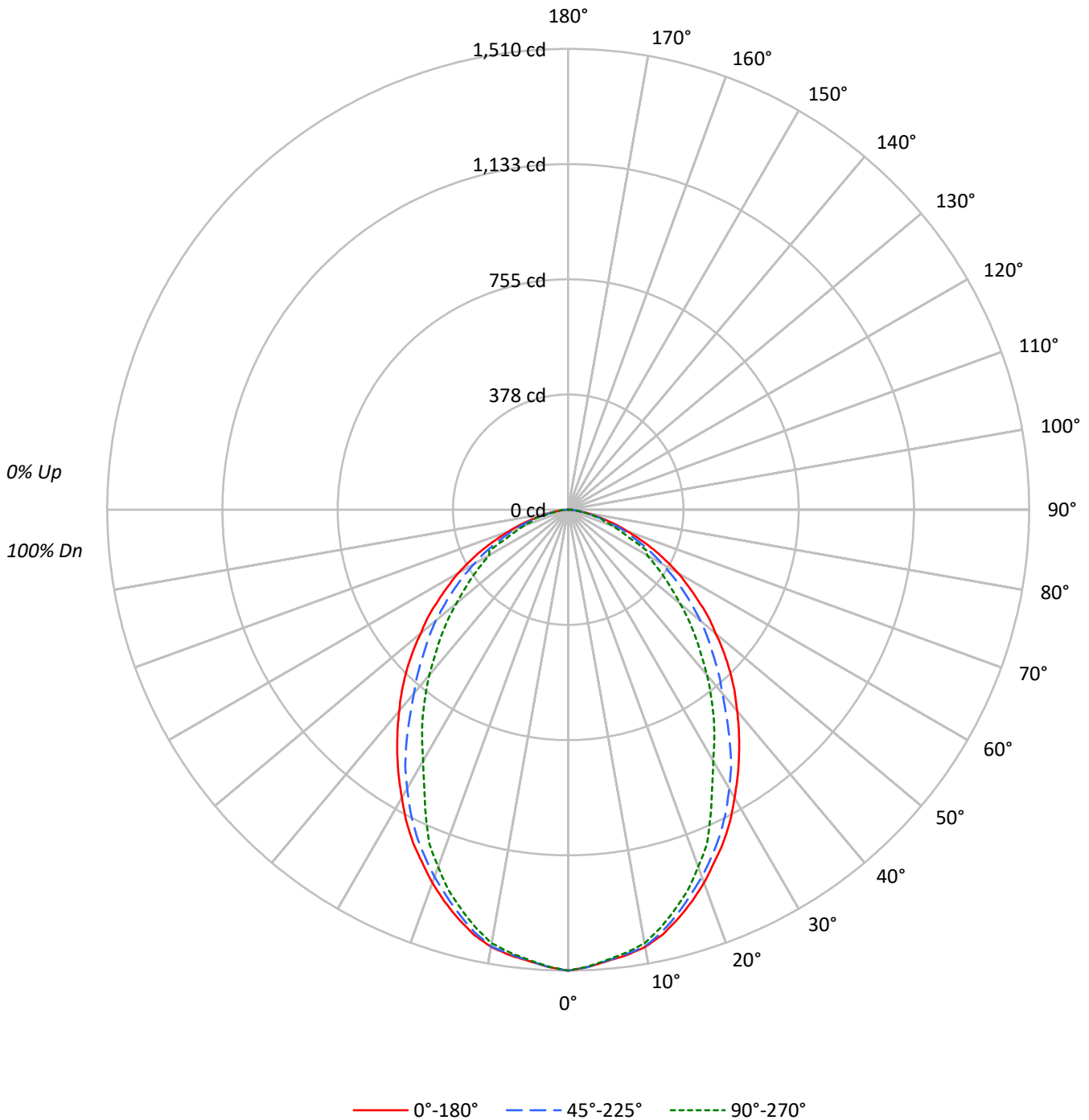
Lumens per Lamp: N/A  
Luminaire Lumens: 2965.0 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	2032	2032	2032
5°	2004	2002	2000
10°	1987	1985	1970
15°	1934	1914	1887
20°	1863	1833	1782
25°	1786	1747	1638
30°	1693	1638	1476
35°	1603	1514	1365
40°	1512	1380	1242
45°	1425	1276	1123
50°	1319	1184	1001
55°	1221	1073	897
60°	1118	959	804
65°	984	840	712
70°	810	735	605
75°	645	563	590
80°	433	406	379
85°	270	324	377

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1425 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.6	4.7
10°-20°	385.8	13.0
20°-30°	534.2	18.0
30°-40°	569.6	19.2
40°-50°	519.6	17.5
50°-60°	407.1	13.7
60°-70°	265.3	8.9
70°-80°	117.5	4.0
80°-90°	25.2	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°	1060.6	35.8
0°-40°	1630.2	55.0
0°-60°	2556.9	86.2
0°-90°	2965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2965.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1484	1482	1482	1481	1481	141
15°	1388	1388	1374	1360	1355	390
25°	1203	1196	1177	1135	1104	552
35°	976	969	922	852	831	610
45°	749	733	670	615	590	577
55°	520	505	458	403	382	467
65°	309	292	264	269	224	305
75°	124	115	108	103	114	133
85°	18	19	21	23	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1499.9	1499.9	1499.9	1498.1	1498.1
5°	1484.1	1482.4	1482.4	1480.6	1480.6
7.5°	1471.9	1470.2	1468.4	1466.7	1463.2
10°	1454.5	1454.5	1452.7	1444.0	1442.2
12.5°	1426.5	1424.8	1417.8	1405.6	1402.1
15°	1388.1	1388.1	1374.1	1360.2	1354.9
17.5°	1346.2	1344.5	1327.0	1313.0	1306.0
20°	1300.8	1297.3	1279.9	1257.2	1244.9
22.5°	1250.2	1250.2	1229.2	1199.5	1187.3
25°	1203.0	1196.0	1176.8	1134.9	1103.5
27.5°	1148.9	1138.4	1117.5	1058.1	1021.4
30°	1089.5	1084.3	1054.6	977.8	949.9
32.5°	1033.7	1024.9	993.5	913.2	890.5
35°	976.0	969.1	921.9	852.1	831.1
37.5°	918.4	909.7	850.3	794.5	768.3
40°	860.8	850.3	785.7	735.1	707.1
42.5°	806.7	792.7	729.8	675.7	644.3
45°	749.1	733.3	670.5	614.6	590.2
47.5°	691.4	677.5	619.8	562.2	534.3
50°	630.3	618.1	565.7	508.1	478.4
52.5°	579.7	560.5	509.8	452.2	427.8
55°	520.3	504.6	457.5	403.3	382.4
57.5°	466.2	450.5	406.8	356.2	338.7
60°	415.6	392.9	356.2	312.5	298.6
62.5°	359.7	342.2	310.8	274.1	291.6
65°	309.1	291.6	263.7	268.9	223.5
67.5°	253.2	244.4	220.0	195.6	188.6
70°	206.0	195.6	186.8	160.6	153.7
72.5°	164.1	153.7	141.4	127.5	122.2
75°	124.0	115.2	108.3	103.0	113.5
77.5°	85.6	82.1	76.8	71.6	69.8
80°	55.9	54.1	52.4	50.6	48.9
82.5°	33.2	33.2	33.2	33.2	33.2
85°	17.5	19.2	21.0	22.7	24.4
87.5°	10.5	10.5	12.2	14.0	15.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)