

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: P562356

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562356  
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-40-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

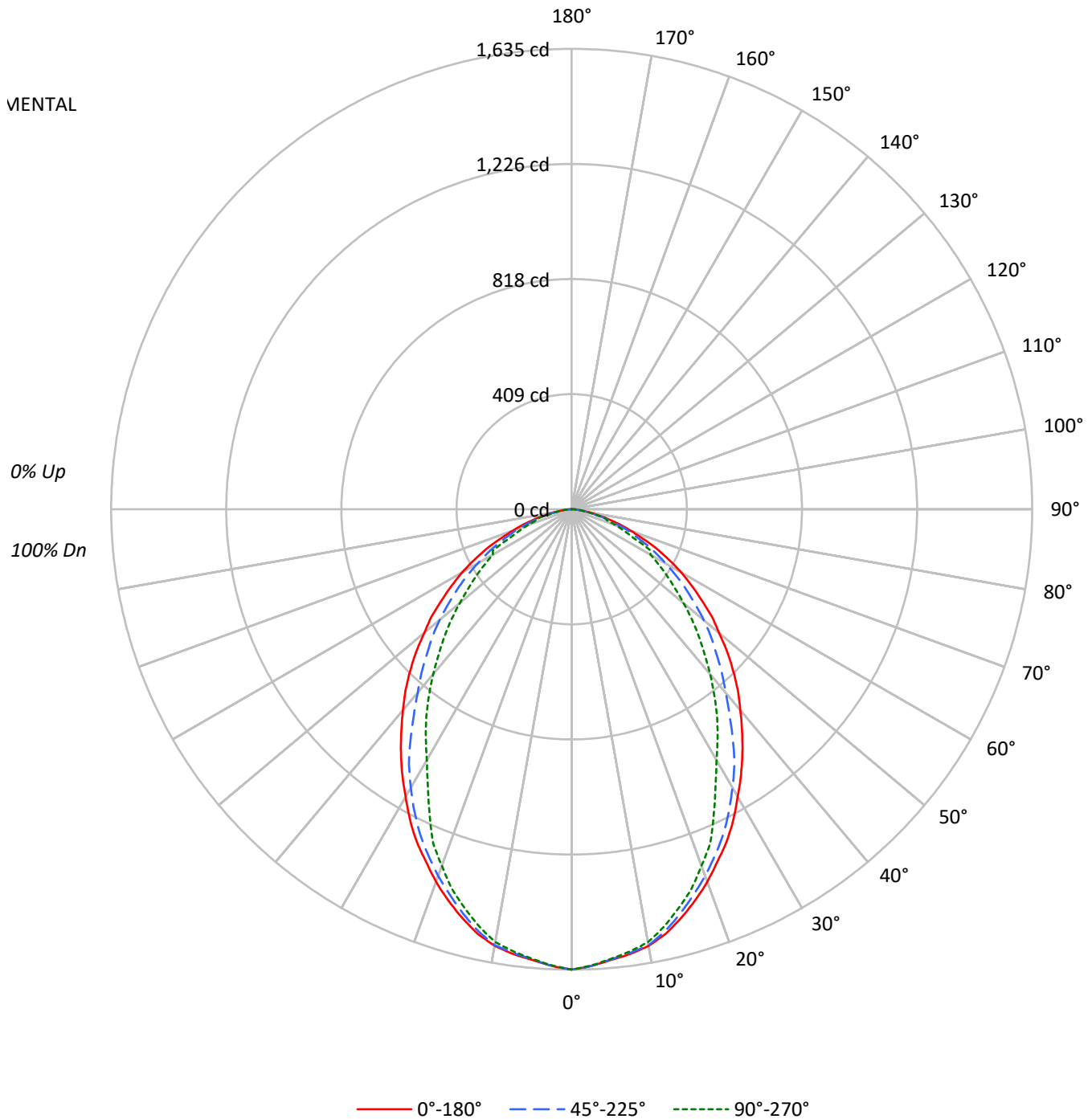
Lumens per Lamp: N/A  
Luminaire Lumens: 3209.0 lumens  
Efficiency: N/A  
Efficacy: 96.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2199	2199	2199
5°	2170	2167	2164
10°	2151	2148	2133
15°	2093	2072	2043
20°	2016	1983	1929
25°	1933	1891	1773
30°	1832	1773	1597
35°	1735	1639	1477
40°	1636	1494	1344
45°	1543	1381	1215
50°	1428	1282	1084
55°	1321	1161	971
60°	1210	1037	869
65°	1065	909	770
70°	877	795	654
75°	698	609	638
80°	469	439	410
85°	292	350	409

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1543 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.2	4.7
10°-20°	417.6	13.0
20°-30°	578.1	18.0
30°-40°	616.5	19.2
40°-50°	562.4	17.5
50°-60°	440.6	13.7
60°-70°	287.2	8.9
70°-80°	127.2	4.0
80°-90°	27.3	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°	1147.9	35.8
0°-40°	1764.3	55.0
0°-60°	2767.3	86.2
0°-90°	3209.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3209.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1635	1635	1635	1635	1635	
5°	1606	1604	1604	1602	1602	152
15°	1502	1502	1487	1472	1466	422
25°	1302	1294	1274	1228	1194	598
35°	1056	1049	998	922	900	660
45°	811	794	726	665	639	624
55°	563	546	495	436	414	505
65°	334	316	285	291	242	330
75°	134	125	117	112	123	144
85°	19	21	23	25	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1634.6	1634.6	1634.6	1634.6	1634.6
2.5°	1623.3	1623.3	1623.3	1621.4	1621.4
5°	1606.3	1604.4	1604.4	1602.5	1602.5
7.5°	1593.0	1591.2	1589.3	1587.4	1583.6
10°	1574.2	1574.2	1572.3	1562.8	1560.9
12.5°	1543.9	1542.0	1534.5	1521.2	1517.5
15°	1502.3	1502.3	1487.2	1472.1	1466.4
17.5°	1457.0	1455.1	1436.2	1421.1	1413.5
20°	1407.9	1404.1	1385.2	1360.6	1347.4
22.5°	1353.1	1353.1	1330.4	1298.2	1285.0
25°	1302.0	1294.5	1273.7	1228.3	1194.3
27.5°	1243.4	1232.1	1209.4	1145.2	1105.5
30°	1179.2	1173.5	1141.4	1058.3	1028.0
32.5°	1118.7	1109.3	1075.3	988.3	963.8
35°	1056.4	1048.8	997.8	922.2	899.5
37.5°	994.0	984.6	920.3	859.8	831.5
40°	931.6	920.3	850.4	795.6	765.3
42.5°	873.1	857.9	789.9	731.3	697.3
45°	810.7	793.7	725.7	665.2	638.7
47.5°	748.3	733.2	670.9	608.5	578.3
50°	682.2	669.0	612.3	549.9	517.8
52.5°	627.4	606.6	551.8	489.4	463.0
55°	563.1	546.1	495.1	436.5	413.9
57.5°	504.6	487.6	440.3	385.5	366.6
60°	449.8	425.2	385.5	338.3	323.1
62.5°	389.3	370.4	336.4	296.7	315.6
65°	334.5	315.6	285.4	291.0	241.9
67.5°	274.0	264.6	238.1	211.7	204.1
70°	223.0	211.7	202.2	173.9	166.3
72.5°	177.6	166.3	153.1	138.0	132.3
75°	134.2	124.7	117.2	111.5	122.8
77.5°	92.6	88.8	83.1	77.5	75.6
80°	60.5	58.6	56.7	54.8	52.9
82.5°	35.9	35.9	35.9	35.9	35.9
85°	18.9	20.8	22.7	24.6	26.5
87.5°	11.3	11.3	13.2	15.1	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)