

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: P562294

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562294  
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-80-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

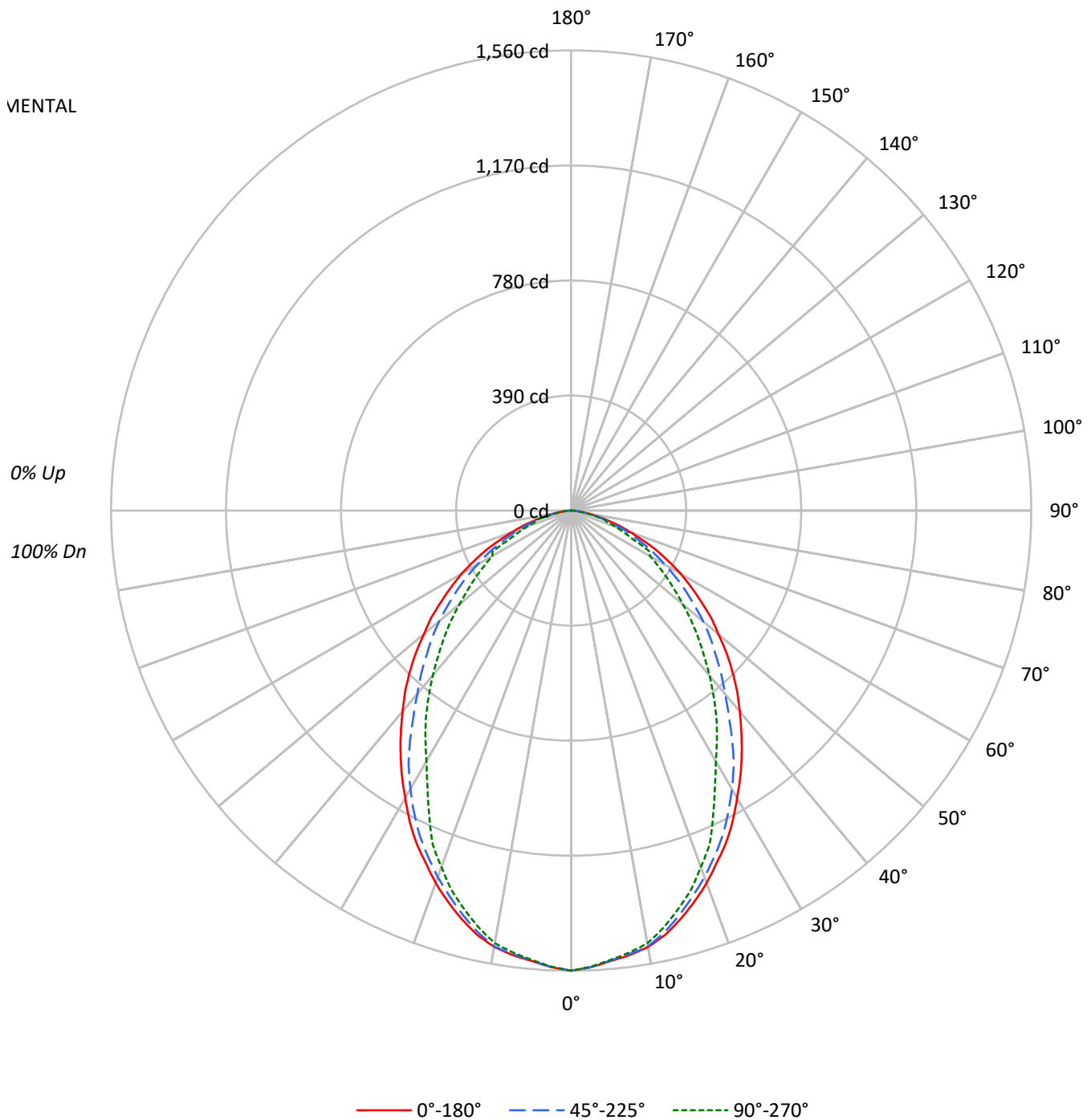
Lumens per Lamp: N/A  
Luminaire Lumens: 3062.0 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2099	2099	2099
5°	2070	2068	2065
10°	2052	2050	2035
15°	1997	1977	1949
20°	1924	1892	1841
25°	1844	1804	1692
30°	1748	1692	1524
35°	1656	1564	1410
40°	1561	1425	1283
45°	1472	1318	1160
50°	1362	1223	1034
55°	1260	1108	926
60°	1155	990	830
65°	1016	867	735
70°	837	759	624
75°	665	581	609
80°	447	419	391
85°	278	333	389

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1472 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.2	4.7
10°-20°	398.5	13.0
20°-30°	551.7	18.0
30°-40°	588.2	19.2
40°-50°	536.6	17.5
50°-60°	420.4	13.7
60°-70°	274.0	8.9
70°-80°	121.4	4.0
80°-90°	26.1	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°	1095.3	35.8
0°-40°	1683.5	55.0
0°-60°	2640.5	86.2
0°-90°	3062.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3062.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1560	1560	1560	1560	1560	
5°	1533	1531	1531	1529	1529	145
15°	1434	1434	1419	1405	1399	403
25°	1242	1235	1215	1172	1140	570
35°	1008	1001	952	880	858	630
45°	774	757	692	635	610	596
55°	537	521	472	416	395	482
65°	319	301	272	278	231	315
75°	128	119	112	106	117	137
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1559.7	1559.7	1559.7	1559.7	1559.7
2.5°	1548.9	1548.9	1548.9	1547.1	1547.1
5°	1532.7	1530.9	1530.9	1529.1	1529.1
7.5°	1520.1	1518.3	1516.5	1514.7	1511.1
10°	1502.0	1502.0	1500.2	1491.2	1489.4
12.5°	1473.2	1471.4	1464.2	1451.6	1447.9
15°	1433.5	1433.5	1419.1	1404.7	1399.3
17.5°	1390.2	1388.4	1370.4	1356.0	1348.8
20°	1343.4	1339.8	1321.7	1298.3	1285.7
22.5°	1291.1	1291.1	1269.4	1238.8	1226.2
25°	1242.4	1235.2	1215.3	1172.1	1139.6
27.5°	1186.5	1175.7	1154.0	1092.7	1054.9
30°	1125.2	1119.8	1089.1	1009.8	980.9
32.5°	1067.5	1058.5	1026.0	943.1	919.6
35°	1008.0	1000.8	952.1	879.9	858.3
37.5°	948.5	939.5	878.1	820.4	793.4
40°	889.0	878.1	811.4	759.1	730.3
42.5°	833.1	818.6	753.7	697.8	665.4
45°	773.6	757.3	692.4	634.7	609.5
47.5°	714.1	699.6	640.1	580.6	551.8
50°	650.9	638.3	584.2	524.7	494.1
52.5°	598.7	578.8	526.5	467.0	441.8
55°	537.3	521.1	472.4	416.5	394.9
57.5°	481.4	465.2	420.1	367.8	349.8
60°	429.2	405.7	367.8	322.8	308.3
62.5°	371.5	353.4	321.0	283.1	301.1
65°	319.2	301.1	272.3	277.7	230.8
67.5°	261.5	252.4	227.2	202.0	194.7
70°	212.8	202.0	192.9	165.9	158.7
72.5°	169.5	158.7	146.1	131.6	126.2
75°	128.0	119.0	111.8	106.4	117.2
77.5°	88.4	84.7	79.3	73.9	72.1
80°	57.7	55.9	54.1	52.3	50.5
82.5°	34.3	34.3	34.3	34.3	34.3
85°	18.0	19.8	21.6	23.4	25.2
87.5°	10.8	10.8	12.6	14.4	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)