

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: P562374

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562374  
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-81-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

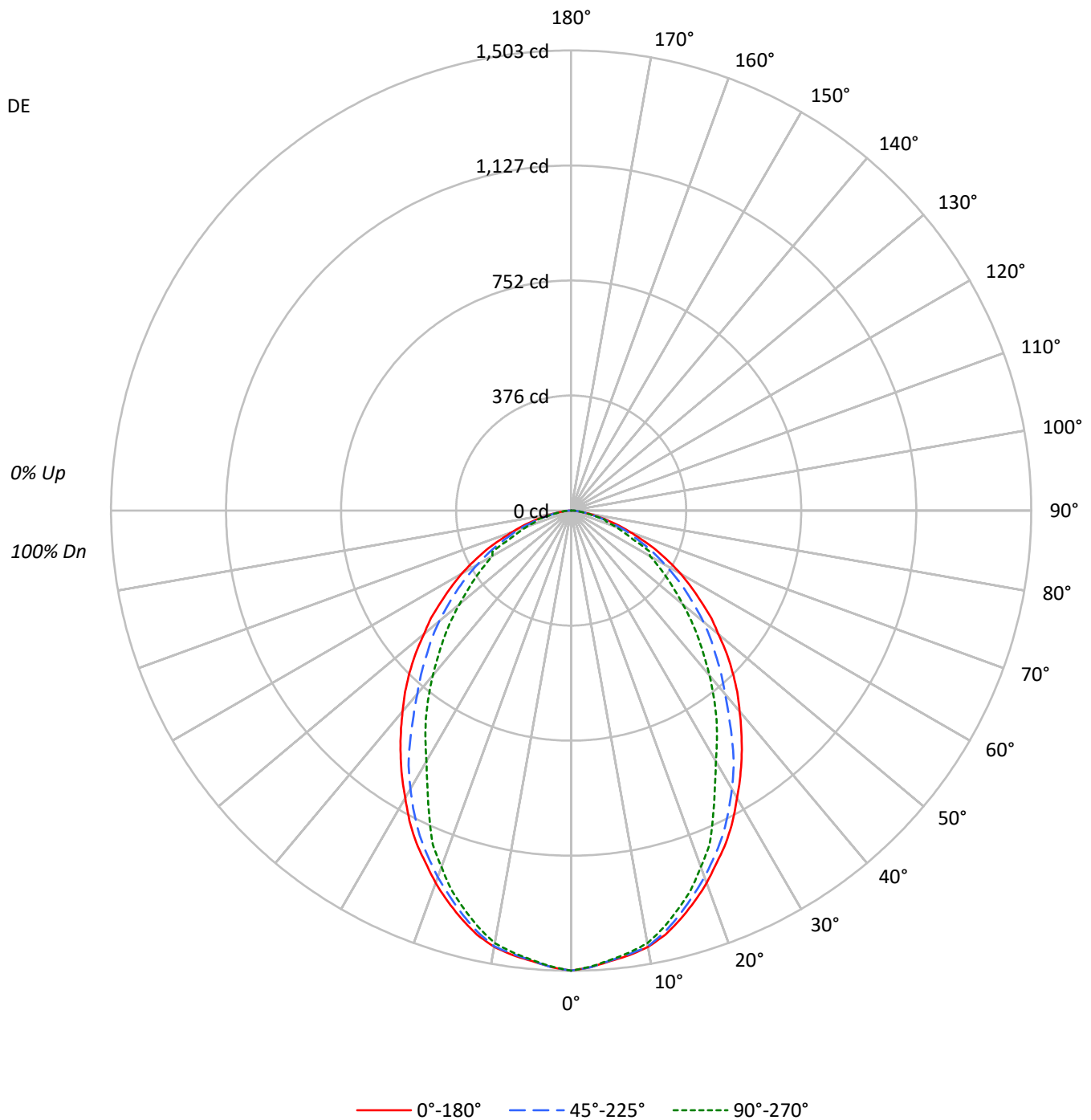
Lumens per Lamp: N/A  
Luminaire Lumens: 2950.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2022	2022	2022
5°	1994	1992	1990
10°	1977	1975	1960
15°	1924	1904	1878
20°	1853	1823	1773
25°	1777	1738	1630
30°	1684	1630	1468
35°	1595	1507	1358
40°	1504	1373	1236
45°	1418	1269	1117
50°	1313	1178	996
55°	1214	1068	892
60°	1113	954	799
65°	979	835	708
70°	806	731	602
75°	641	560	587
80°	431	404	377
85°	269	321	375

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1418 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.9	4.7
10°-20°	383.9	13.0
20°-30°	531.5	18.0
30°-40°	566.7	19.2
40°-50°	517.0	17.5
50°-60°	405.0	13.7
60°-70°	264.0	8.9
70°-80°	116.9	4.0
80°-90°	25.1	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°	1055.2	35.8
0°-40°	1621.9	55.0
0°-60°	2544.0	86.2
0°-90°	2950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2950.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1477	1475	1475	1473	1473	140
15°	1381	1381	1367	1353	1348	388
25°	1197	1190	1171	1129	1098	550
35°	971	964	917	848	827	607
45°	745	730	667	612	587	574
55°	518	502	455	401	380	464
65°	308	290	262	268	222	303
75°	123	115	108	102	113	132
85°	17	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°	1502.7	1502.7	1502.7	1502.7	1502.7
2.5°	1492.3	1492.3	1492.3	1490.5	1490.5
5°	1476.6	1474.9	1474.9	1473.2	1473.2
7.5°	1464.5	1462.7	1461.0	1459.3	1455.8
10°	1447.1	1447.1	1445.4	1436.7	1434.9
12.5°	1419.3	1417.6	1410.6	1398.5	1395.0
15°	1381.1	1381.1	1367.2	1353.3	1348.1
17.5°	1339.4	1337.7	1320.3	1306.4	1299.4
20°	1294.2	1290.8	1273.4	1250.8	1238.6
22.5°	1243.8	1243.8	1223.0	1193.5	1181.3
25°	1196.9	1190.0	1170.9	1129.2	1097.9
27.5°	1143.1	1132.7	1111.8	1052.8	1016.3
30°	1084.0	1078.8	1049.3	972.8	945.0
32.5°	1028.4	1019.7	988.5	908.6	886.0
35°	971.1	964.2	917.2	847.8	826.9
37.5°	913.8	905.1	846.0	790.4	764.4
40°	856.4	846.0	781.7	731.4	703.6
42.5°	802.6	788.7	726.2	672.3	641.0
45°	745.3	729.6	667.1	611.5	587.2
47.5°	687.9	674.0	616.7	559.4	531.6
50°	627.1	615.0	562.9	505.5	476.0
52.5°	576.8	557.6	507.3	449.9	425.6
55°	517.7	502.1	455.2	401.3	380.4
57.5°	463.8	448.2	404.8	354.4	337.0
60°	413.5	390.9	354.4	311.0	297.1
62.5°	357.9	340.5	309.2	272.7	290.1
65°	307.5	290.1	262.3	267.5	222.4
67.5°	251.9	243.2	218.9	194.6	187.6
70°	205.0	194.6	185.9	159.8	152.9
72.5°	163.3	152.9	140.7	126.8	121.6
75°	123.3	114.7	107.7	102.5	112.9
77.5°	85.1	81.6	76.4	71.2	69.5
80°	55.6	53.9	52.1	50.4	48.6
82.5°	33.0	33.0	33.0	33.0	33.0
85°	17.4	19.1	20.8	22.6	24.3
87.5°	10.4	10.4	12.2	13.9	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)