

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: P562002

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562002  
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-LD4-1HI-35-UNV-82-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

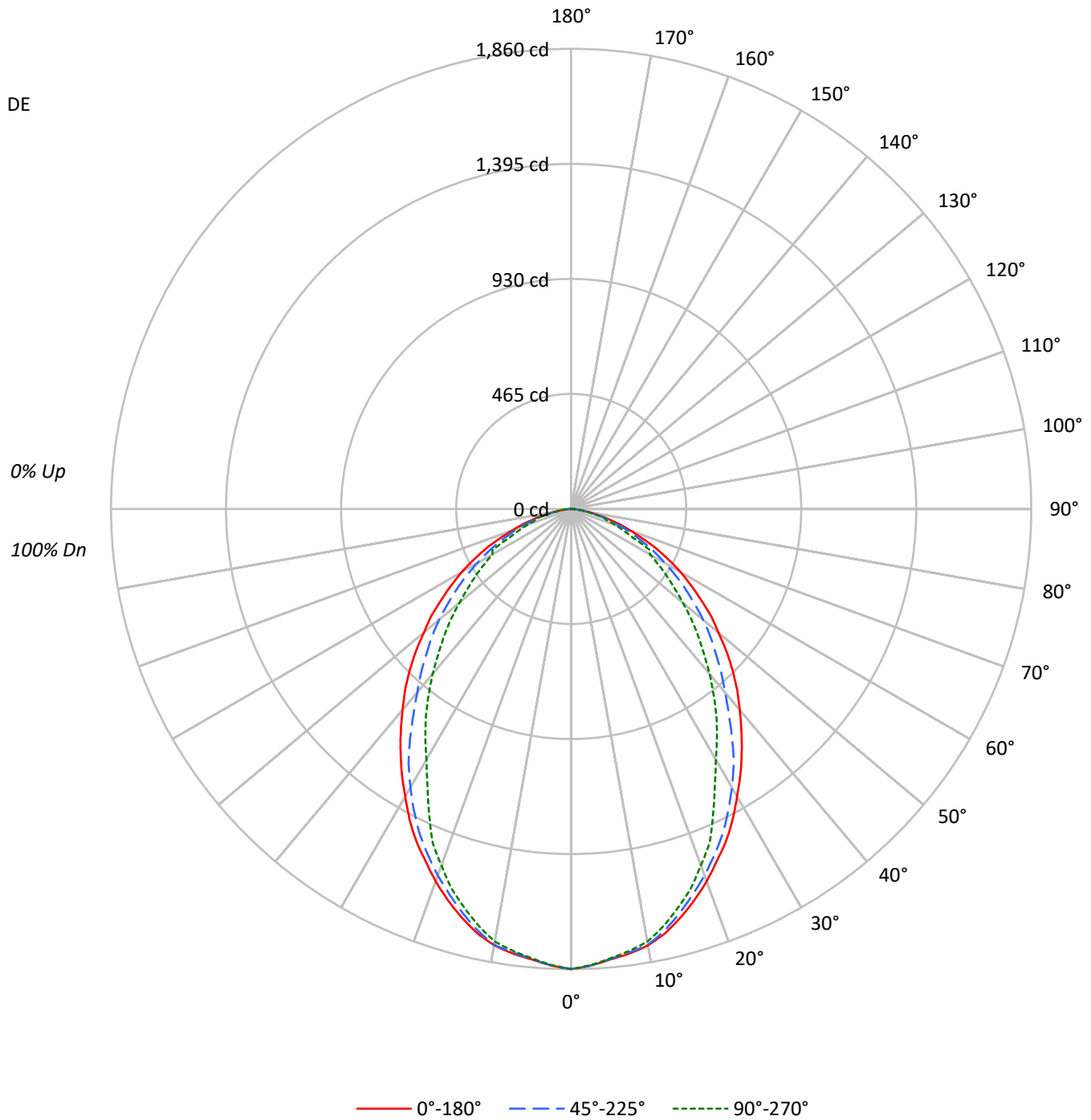
Lumens per Lamp: N/A  
Luminaire Lumens: 3651.1 lumens  
Efficiency: N/A  
Efficacy: 84.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2502	2502	2502
5°	2468	2465	2462
10°	2447	2444	2426
15°	2381	2357	2324
20°	2294	2257	2195
25°	2199	2151	2017
30°	2084	2018	1817
35°	1974	1865	1681
40°	1862	1699	1529
45°	1755	1571	1383
50°	1625	1458	1233
55°	1503	1321	1105
60°	1377	1180	989
65°	1212	1034	876
70°	998	905	744
75°	794	693	727
80°	533	500	466
85°	332	398	465

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1755 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.1	4.7
10°-20°	475.1	13.0
20°-30°	657.8	18.0
30°-40°	701.4	19.2
40°-50°	639.9	17.5
50°-60°	501.3	13.7
60°-70°	326.7	8.9
70°-80°	144.8	4.0
80°-90°	31.1	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°	1306.0	35.8
0°-40°	2007.4	55.0
0°-60°	3148.5	86.2
0°-90°	3651.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3651.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1828	1825	1825	1823	1823	173
15°	1709	1709	1692	1675	1668	481
25°	1481	1473	1449	1398	1359	680
35°	1202	1193	1135	1049	1023	751
45°	922	903	826	757	727	710
55°	641	621	563	497	471	575
65°	381	359	325	331	275	375
75°	153	142	133	127	140	164
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1859.8	1859.8	1859.8	1859.8	1859.8
2.5°	1846.9	1846.9	1846.9	1844.7	1844.7
5°	1827.5	1825.4	1825.4	1823.2	1823.2
7.5°	1812.5	1810.3	1808.2	1806.0	1801.7
10°	1791.0	1791.0	1788.8	1778.1	1775.9
12.5°	1756.6	1754.4	1745.8	1730.8	1726.5
15°	1709.3	1709.3	1692.1	1674.9	1668.4
17.5°	1657.7	1655.5	1634.0	1616.8	1608.2
20°	1601.8	1597.5	1576.0	1548.0	1533.0
22.5°	1539.4	1539.4	1513.6	1477.1	1462.0
25°	1481.4	1472.8	1449.1	1397.5	1358.8
27.5°	1414.7	1401.8	1376.0	1302.9	1257.8
30°	1341.6	1335.2	1298.6	1204.0	1169.6
32.5°	1272.8	1262.1	1223.4	1124.5	1096.5
35°	1201.9	1193.3	1135.2	1049.2	1023.4
37.5°	1130.9	1120.2	1047.1	978.3	946.0
40°	1060.0	1047.1	967.5	905.2	870.8
42.5°	993.3	976.1	898.7	832.1	793.4
45°	922.4	903.0	825.6	756.8	726.7
47.5°	851.4	834.2	763.3	692.3	657.9
50°	776.2	761.1	696.6	625.7	589.1
52.5°	713.8	690.2	627.8	556.9	526.8
55°	640.7	621.4	563.3	496.7	470.9
57.5°	574.1	554.7	501.0	438.6	417.1
60°	511.7	483.8	438.6	384.9	367.7
62.5°	442.9	421.4	382.7	337.6	359.1
65°	380.6	359.1	324.7	331.1	275.2
67.5°	311.8	301.0	270.9	240.8	232.2
70°	253.7	240.8	230.1	197.8	189.2
72.5°	202.1	189.2	174.2	157.0	150.5
75°	152.7	141.9	133.3	126.9	139.8
77.5°	105.4	101.1	94.6	88.2	86.0
80°	68.8	66.7	64.5	62.4	60.2
82.5°	40.9	40.9	40.9	40.9	40.9
85°	21.5	23.7	25.8	28.0	30.1
87.5°	12.9	12.9	15.1	17.2	19.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)