

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: P562009

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562009  
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-82-88-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

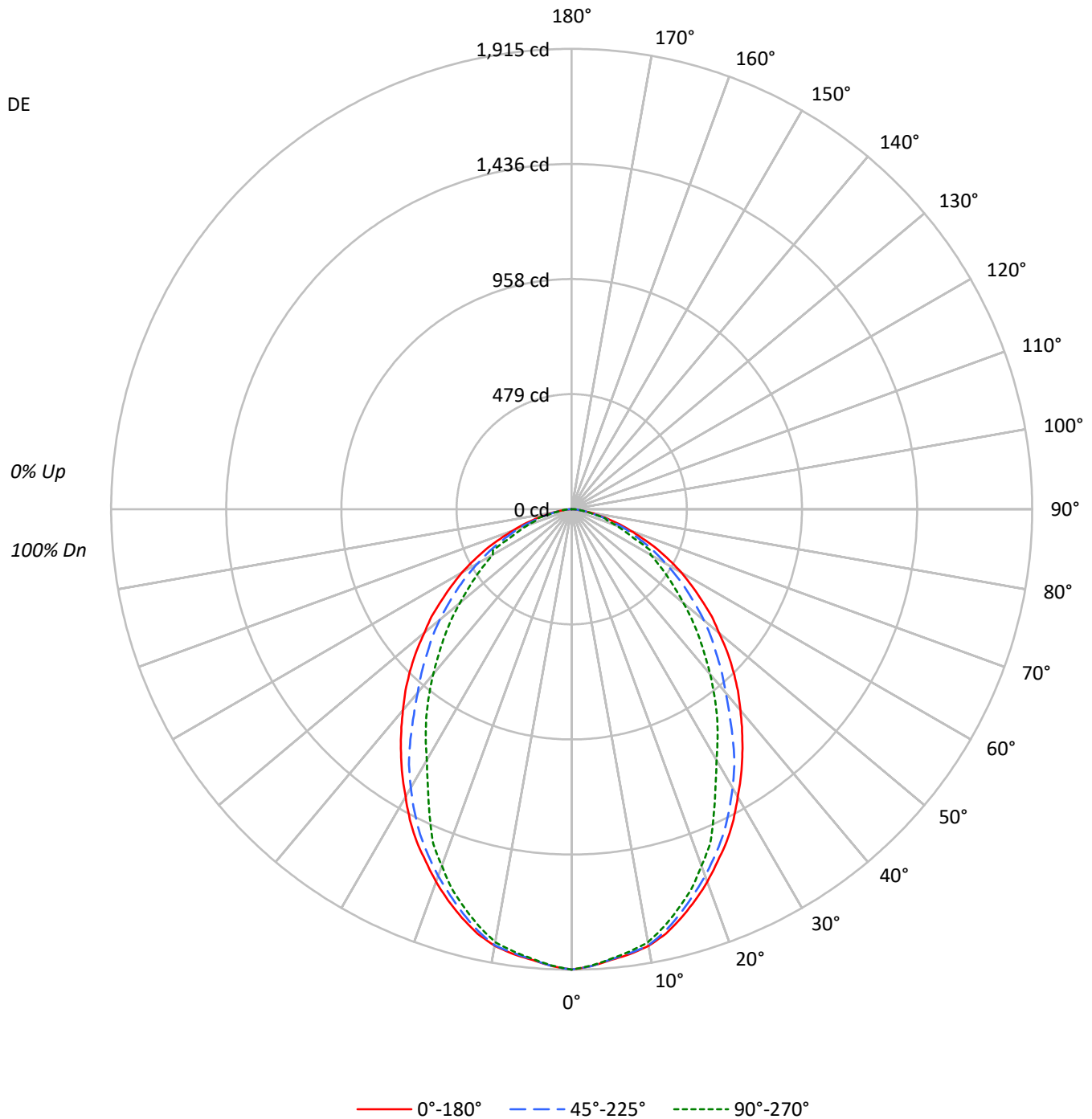
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3759.0 lumens  
Efficiency: N/A  
Efficacy: 87.0 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): 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°	2576	2576	2576
5°	2541	2538	2535
10°	2519	2516	2498
15°	2451	2427	2393
20°	2361	2323	2260
25°	2264	2215	2077
30°	2146	2077	1871
35°	2032	1920	1731
40°	1917	1750	1575
45°	1807	1617	1424
50°	1673	1501	1270
55°	1548	1361	1137
60°	1418	1215	1019
65°	1247	1064	902
70°	1028	932	766
75°	817	713	748
80°	549	514	480
85°	341	411	479

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1807 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.2	4.7
10°-20°	489.2	13.0
20°-30°	677.2	18.0
30°-40°	722.1	19.2
40°-50°	658.8	17.5
50°-60°	516.1	13.7
60°-70°	336.4	8.9
70°-80°	149.0	4.0
80°-90°	32.0	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°	1344.6	35.8
0°-40°	2066.7	55.0
0°-60°	3241.6	86.2
0°-90°	3759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3759.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1915	1915	1915	1915	1915	
5°	1882	1879	1879	1877	1877	179
15°	1760	1760	1742	1724	1718	495
25°	1525	1516	1492	1439	1399	700
35°	1237	1229	1169	1080	1054	774
45°	950	930	850	779	748	731
55°	660	640	580	511	485	592
65°	392	370	334	341	283	386
75°	157	146	137	131	144	168
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1914.8	1914.8	1914.8	1914.8	1914.8
2.5°	1901.5	1901.5	1901.5	1899.3	1899.3
5°	1881.6	1879.4	1879.4	1877.2	1877.2
7.5°	1866.1	1863.9	1861.7	1859.4	1855.0
10°	1843.9	1843.9	1841.7	1830.7	1828.5
12.5°	1808.5	1806.3	1797.5	1782.0	1777.5
15°	1759.8	1759.8	1742.1	1724.4	1717.8
17.5°	1706.7	1704.5	1682.4	1664.6	1655.8
20°	1649.1	1644.7	1622.6	1593.8	1578.3
22.5°	1585.0	1585.0	1558.4	1520.8	1505.3
25°	1525.2	1516.3	1492.0	1438.9	1399.0
27.5°	1456.6	1443.3	1416.7	1341.5	1295.0
30°	1381.3	1374.7	1337.0	1239.6	1204.2
32.5°	1310.5	1299.4	1259.6	1157.7	1128.9
35°	1237.4	1228.6	1168.8	1080.2	1053.7
37.5°	1164.4	1153.3	1078.0	1007.2	974.0
40°	1091.3	1078.0	996.1	931.9	896.5
42.5°	1022.7	1005.0	925.3	856.7	816.8
45°	949.6	929.7	850.0	779.2	748.2
47.5°	876.6	858.9	785.8	712.8	677.4
50°	799.1	783.6	717.2	644.2	606.5
52.5°	734.9	710.6	646.4	573.3	542.3
55°	659.7	639.7	580.0	511.3	484.8
57.5°	591.0	571.1	515.8	451.6	429.4
60°	526.8	498.1	451.6	396.2	378.5
62.5°	456.0	433.9	394.0	347.5	369.7
65°	391.8	369.7	334.3	340.9	283.3
67.5°	321.0	309.9	278.9	247.9	239.1
70°	261.2	247.9	236.9	203.7	194.8
72.5°	208.1	194.8	179.3	161.6	155.0
75°	157.2	146.1	137.2	130.6	143.9
77.5°	108.5	104.0	97.4	90.8	88.5
80°	70.8	68.6	66.4	64.2	62.0
82.5°	42.1	42.1	42.1	42.1	42.1
85°	22.1	24.3	26.6	28.8	31.0
87.5°	13.3	13.3	15.5	17.7	19.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)