

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: P561980

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561980  
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-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

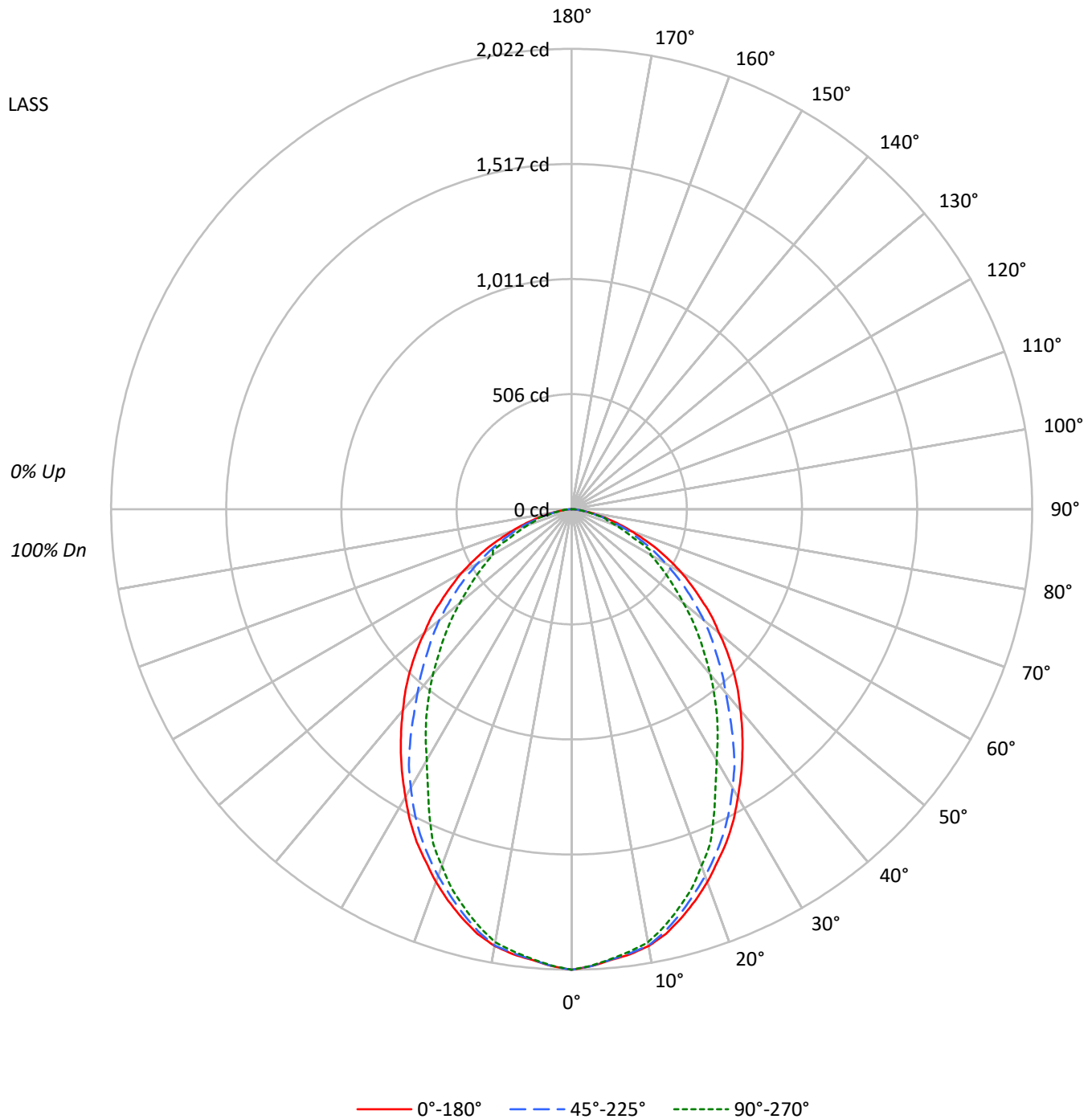
Lumens per Lamp: N/A  
Luminaire Lumens: 3970.0 lumens  
Efficiency: N/A  
Efficacy: 91.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2721	2721	2721
5°	2684	2681	2678
10°	2661	2657	2638
15°	2589	2563	2527
20°	2494	2454	2387
25°	2391	2339	2193
30°	2266	2194	1976
35°	2147	2028	1828
40°	2024	1848	1663
45°	1908	1708	1504
50°	1767	1586	1341
55°	1634	1437	1201
60°	1497	1283	1076
65°	1317	1124	953
70°	1085	984	809
75°	863	753	790
80°	580	543	508
85°	361	434	505

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1908 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.2	4.7
10°-20°	516.6	13.0
20°-30°	715.2	18.0
30°-40°	762.6	19.2
40°-50°	695.7	17.5
50°-60°	545.1	13.7
60°-70°	355.2	8.9
70°-80°	157.4	4.0
80°-90°	33.8	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°	1420.1	35.8
0°-40°	2182.7	55.0
0°-60°	3423.5	86.2
0°-90°	3970.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3970.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2022	2022	2022	2022	2022	
5°	1987	1985	1985	1982	1982	189
15°	1859	1859	1840	1821	1814	523
25°	1611	1601	1576	1520	1478	740
35°	1307	1298	1234	1141	1113	817
45°	1003	982	898	823	790	773
55°	697	676	612	540	512	625
65°	414	390	353	360	299	408
75°	166	154	145	138	152	178
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2022.3	2022.3	2022.3	2022.3	2022.3
2.5°	2008.2	2008.2	2008.2	2005.9	2005.9
5°	1987.2	1984.9	1984.9	1982.5	1982.5
7.5°	1970.8	1968.5	1966.2	1963.8	1959.1
10°	1947.5	1947.5	1945.1	1933.4	1931.1
12.5°	1910.0	1907.7	1898.4	1882.0	1877.3
15°	1858.6	1858.6	1839.9	1821.2	1814.2
17.5°	1802.5	1800.2	1776.8	1758.1	1748.7
20°	1741.7	1737.0	1713.7	1683.3	1666.9
22.5°	1673.9	1673.9	1645.9	1606.1	1589.8
25°	1610.8	1601.4	1575.7	1519.6	1477.5
27.5°	1538.3	1524.3	1496.2	1416.8	1367.7
30°	1458.8	1451.8	1412.1	1309.2	1271.8
32.5°	1384.0	1372.3	1330.3	1222.7	1192.3
35°	1306.9	1297.5	1234.4	1140.9	1112.8
37.5°	1229.7	1218.0	1138.5	1063.7	1028.7
40°	1152.6	1138.5	1052.0	984.2	946.8
42.5°	1080.1	1061.4	977.2	904.8	862.7
45°	1002.9	981.9	897.7	822.9	790.2
47.5°	925.8	907.1	829.9	752.8	715.4
50°	844.0	827.6	757.5	680.3	640.6
52.5°	776.2	750.5	682.7	605.5	572.8
55°	696.7	675.6	612.5	540.0	512.0
57.5°	624.2	603.2	544.7	476.9	453.5
60°	556.4	526.0	476.9	418.5	399.8
62.5°	481.6	458.2	416.1	367.0	390.4
65°	413.8	390.4	353.0	360.0	299.2
67.5°	339.0	327.3	294.6	261.8	252.5
70°	275.9	261.8	250.2	215.1	205.7
72.5°	219.8	205.7	189.4	170.7	163.7
75°	166.0	154.3	144.9	137.9	152.0
77.5°	114.6	109.9	102.9	95.9	93.5
80°	74.8	72.5	70.1	67.8	65.5
82.5°	44.4	44.4	44.4	44.4	44.4
85°	23.4	25.7	28.1	30.4	32.7
87.5°	14.0	14.0	16.4	18.7	21.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)