

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: P560879

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560879  
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-12-4-LD4-1HI-40-UNV-93-97-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

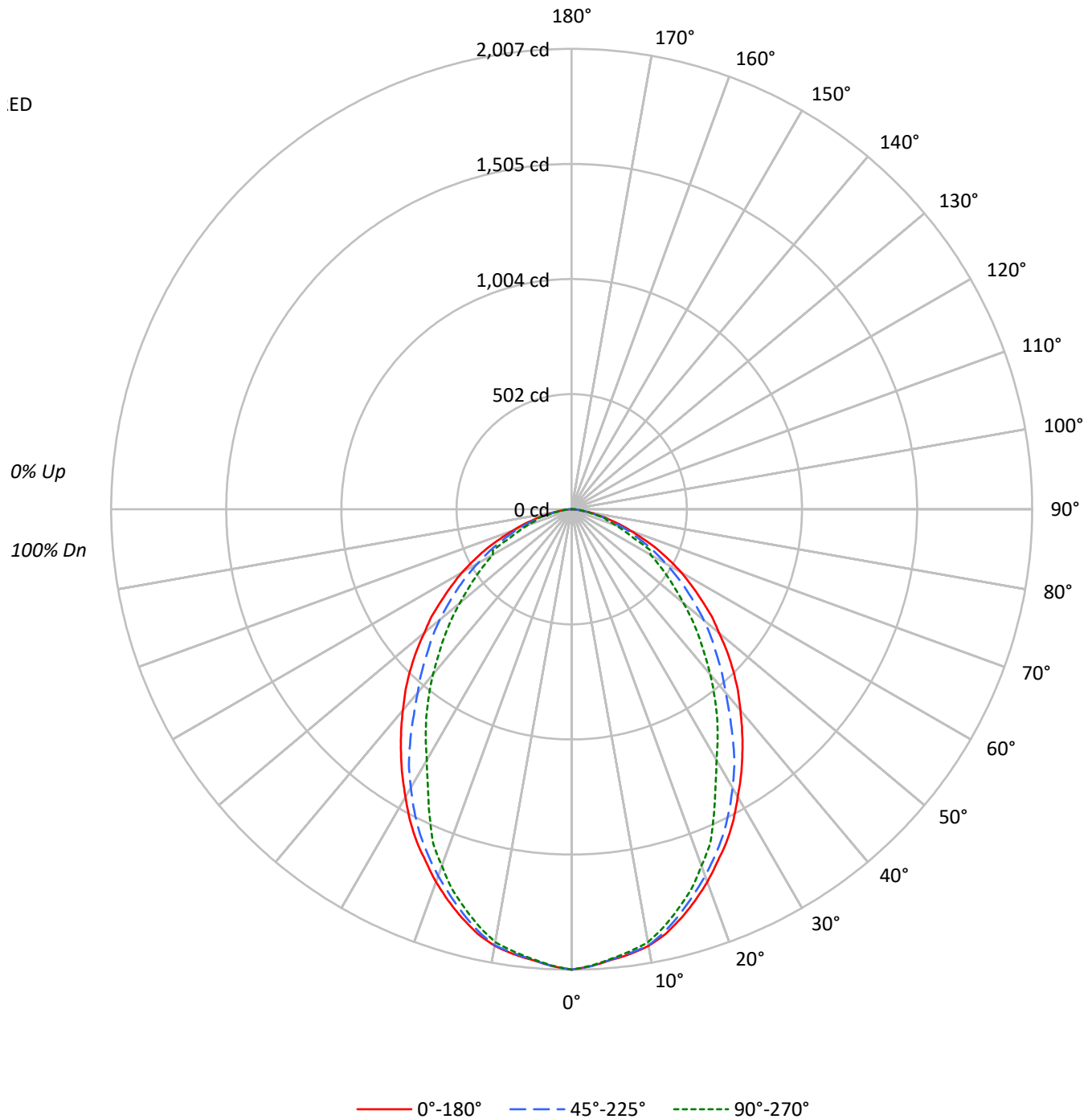
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3940.0 lumens  
Efficiency: N/A  
Efficacy: 91.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' 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°	5401	5401	5401
5°	5327	5321	5315
10°	5281	5275	5237
15°	5139	5087	5016
20°	4950	4870	4737
25°	4747	4643	4354
30°	4499	4355	3922
35°	4261	4025	3628
40°	4018	3668	3301
45°	3788	3391	2984
50°	3507	3147	2661
55°	3244	2852	2384
60°	2972	2547	2136
65°	2615	2231	1891
70°	2154	1954	1607
75°	1712	1496	1568
80°	1150	1079	1007
85°	716	858	1003

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3788 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.8	4.7
10°-20°	512.7	13.0
20°-30°	709.8	18.0
30°-40°	756.9	19.2
40°-50°	690.5	17.5
50°-60°	540.9	13.7
60°-70°	352.6	8.9
70°-80°	156.2	4.0
80°-90°	33.5	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°	1409.4	35.8
0°-40°	2166.2	55.0
0°-60°	3397.7	86.2
0°-90°	3940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3940.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2007	2007	2007	2007	2007	
5°	1972	1970	1970	1968	1968	187
15°	1845	1845	1826	1807	1800	519
25°	1599	1589	1564	1508	1466	734
35°	1297	1288	1225	1132	1104	811
45°	995	974	891	817	784	767
55°	691	670	608	536	508	620
65°	411	388	350	357	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2007.0	2007.0	2007.0	2007.0	2007.0
2.5°	1993.1	1993.1	1993.1	1990.7	1990.7
5°	1972.2	1969.9	1969.9	1967.5	1967.5
7.5°	1955.9	1953.6	1951.3	1949.0	1944.3
10°	1932.7	1932.7	1930.4	1918.8	1916.5
12.5°	1895.6	1893.3	1884.0	1867.8	1863.1
15°	1844.6	1844.6	1826.0	1807.4	1800.5
17.5°	1788.9	1786.6	1763.4	1744.8	1735.5
20°	1728.6	1723.9	1700.7	1670.6	1654.3
22.5°	1661.3	1661.3	1633.4	1594.0	1577.7
25°	1598.6	1589.3	1563.8	1508.1	1466.4
27.5°	1526.7	1512.8	1484.9	1406.0	1357.3
30°	1447.8	1440.9	1401.4	1299.3	1262.2
32.5°	1373.6	1362.0	1320.2	1213.5	1183.3
35°	1297.0	1287.7	1225.1	1132.3	1104.4
37.5°	1220.4	1208.8	1129.9	1055.7	1020.9
40°	1143.9	1129.9	1044.1	976.8	939.7
42.5°	1071.9	1053.4	969.8	897.9	856.2
45°	995.4	974.5	891.0	816.7	784.2
47.5°	918.8	900.2	823.7	747.1	710.0
50°	837.6	821.4	751.7	675.2	635.7
52.5°	770.3	744.8	677.5	600.9	568.5
55°	691.4	670.5	607.9	536.0	508.1
57.5°	619.5	598.6	540.6	473.3	450.1
60°	552.2	522.0	473.3	415.3	396.8
62.5°	478.0	454.8	413.0	364.3	387.5
65°	410.7	387.5	350.4	357.3	297.0
67.5°	336.4	324.8	292.3	259.9	250.6
70°	273.8	259.9	248.3	213.5	204.2
72.5°	218.1	204.2	187.9	169.4	162.4
75°	164.7	153.1	143.9	136.9	150.8
77.5°	113.7	109.0	102.1	95.1	92.8
80°	74.2	71.9	69.6	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.8	30.2	32.5
87.5°	13.9	13.9	16.2	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)