

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: P560257

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-81-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560257  
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-12-2-LD4-2HI-40-UNV-81-84-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

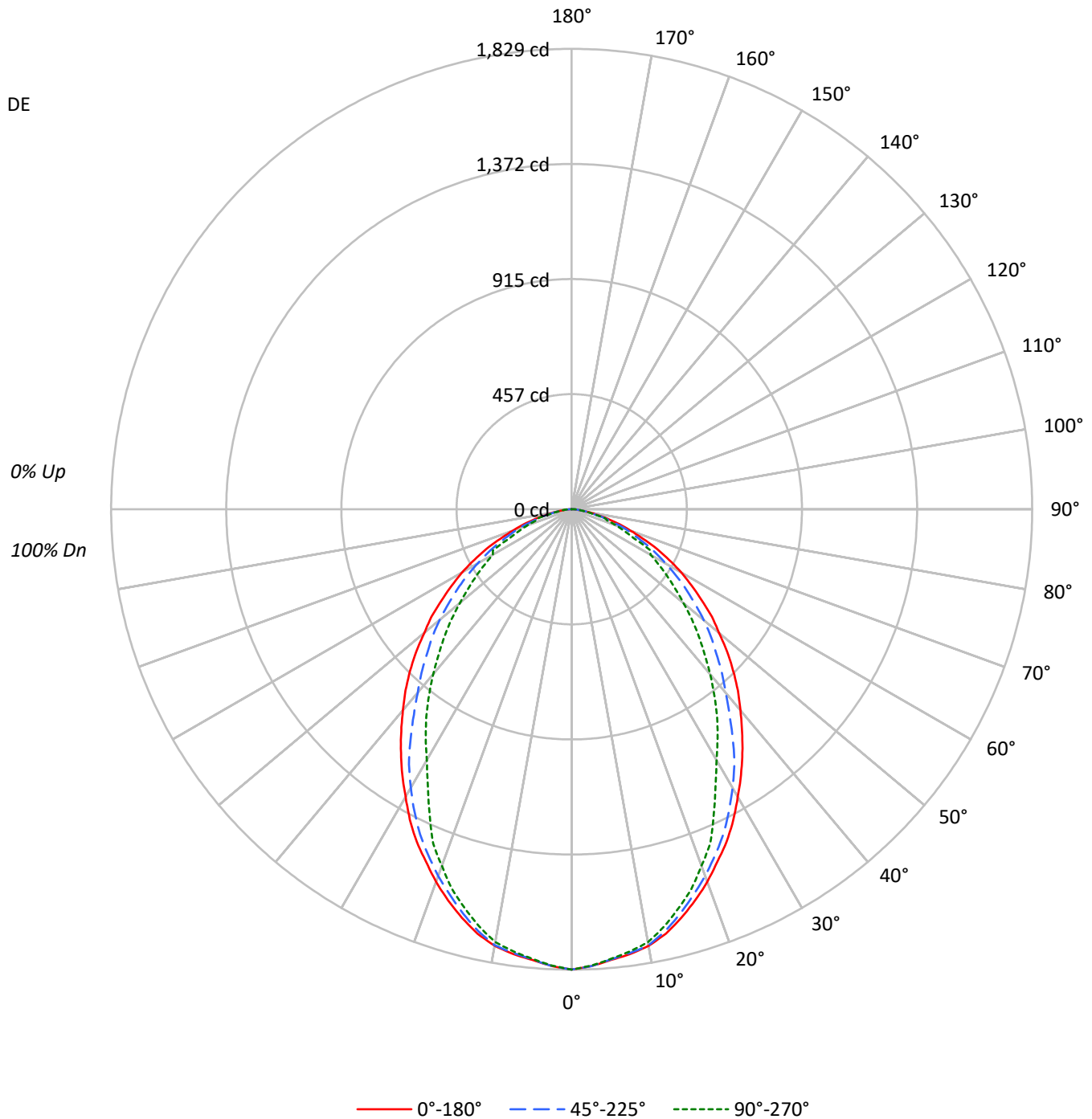
Lumens per Lamp: N/A  
Luminaire Lumens: 3590.0 lumens  
Efficiency: N/A  
Efficacy: 83.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9842	9842	9842
5°	9708	9697	9686
10°	9624	9612	9543
15°	9365	9270	9141
20°	9021	8875	8633
25°	8650	8462	7934
30°	8198	7935	7147
35°	7765	7334	6612
40°	7323	6683	6015
45°	6903	6179	5439
50°	6390	5735	4850
55°	5911	5197	4344
60°	5416	4642	3891
65°	4765	4065	3446
70°	3926	3559	2927
75°	3121	2726	2857
80°	2098	1965	1835
85°	1303	1568	1828

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6903 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.2	4.7
10°-20°	467.2	13.0
20°-30°	646.8	18.0
30°-40°	689.6	19.2
40°-50°	629.2	17.5
50°-60°	492.9	13.7
60°-70°	321.3	8.9
70°-80°	142.3	4.0
80°-90°	30.6	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°	1284.2	35.8
0°-40°	1973.8	55.0
0°-60°	3095.9	86.2
0°-90°	3590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3590.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1829	1829	1829	1829	1829	
5°	1797	1795	1795	1793	1793	171
15°	1681	1681	1664	1647	1640	472
25°	1457	1448	1425	1374	1336	669
35°	1182	1173	1116	1032	1006	739
45°	907	888	812	744	715	699
55°	630	611	554	488	463	565
65°	374	353	319	326	271	369
75°	150	140	131	125	137	161
85°	21	23	25	28	30	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1828.7	1828.7	1828.7	1828.7	1828.7
2.5°	1816.0	1816.0	1816.0	1813.9	1813.9
5°	1797.0	1794.9	1794.9	1792.8	1792.8
7.5°	1782.2	1780.1	1778.0	1775.8	1771.6
10°	1761.0	1761.0	1758.9	1748.4	1746.2
12.5°	1727.2	1725.1	1716.7	1701.9	1697.6
15°	1680.7	1680.7	1663.8	1646.9	1640.5
17.5°	1630.0	1627.9	1606.7	1589.8	1581.3
20°	1575.0	1570.8	1549.6	1522.2	1507.4
22.5°	1513.7	1513.7	1488.3	1452.4	1437.6
25°	1456.6	1448.2	1424.9	1374.2	1336.1
27.5°	1391.1	1378.4	1353.0	1281.1	1236.7
30°	1319.2	1312.9	1276.9	1183.9	1150.1
32.5°	1251.5	1241.0	1202.9	1105.7	1078.2
35°	1181.8	1173.3	1116.2	1031.7	1006.3
37.5°	1112.0	1101.4	1029.6	961.9	930.2
40°	1042.3	1029.6	951.3	890.0	856.2
42.5°	976.7	959.8	883.7	818.2	780.1
45°	906.9	887.9	811.8	744.2	714.6
47.5°	837.2	820.3	750.5	680.7	646.9
50°	763.2	748.4	685.0	615.2	579.3
52.5°	701.9	678.6	617.3	547.6	518.0
55°	630.0	611.0	553.9	488.4	463.0
57.5°	564.5	545.4	492.6	431.3	410.1
60°	503.2	475.7	431.3	378.4	361.5
62.5°	435.5	414.4	376.3	331.9	353.1
65°	374.2	353.1	319.2	325.6	270.6
67.5°	306.5	296.0	266.4	236.8	228.3
70°	249.5	236.8	226.2	194.5	186.0
72.5°	198.7	186.0	171.2	154.3	148.0
75°	150.1	139.5	131.1	124.7	137.4
77.5°	103.6	99.4	93.0	86.7	84.6
80°	67.7	65.5	63.4	61.3	59.2
82.5°	40.2	40.2	40.2	40.2	40.2
85°	21.1	23.3	25.4	27.5	29.6
87.5°	12.7	12.7	14.8	16.9	19.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)