

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: P560581

Luminaire Tested: FSR-12-2-LD4-2STD-35-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560581  
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-LD4-2STD-35-UNV-81-86-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

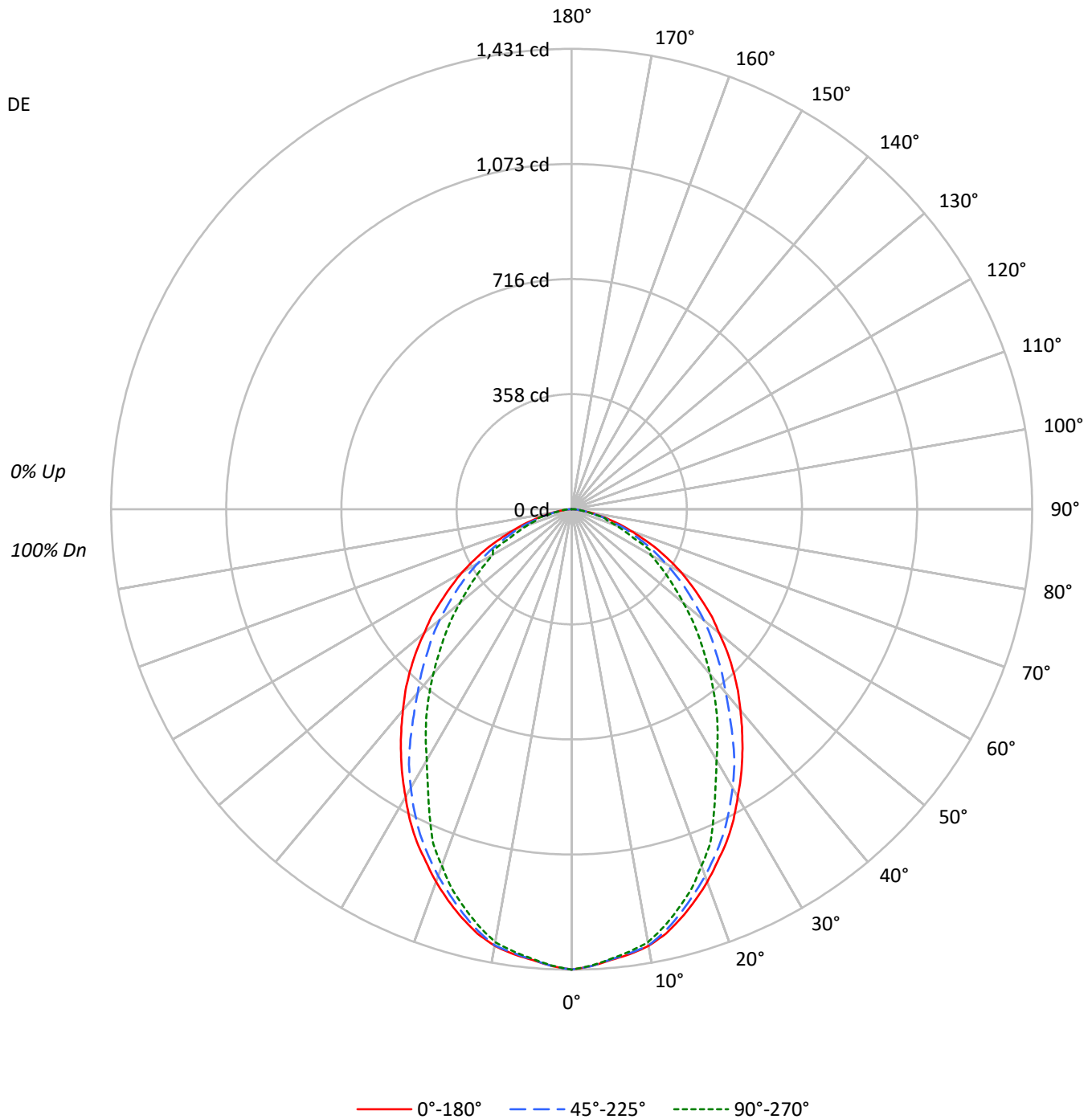
Lumens per Lamp: N/A  
Luminaire Lumens: 2809.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7701	7701	7701
5°	7596	7587	7578
10°	7530	7521	7467
15°	7327	7253	7152
20°	7058	6944	6755
25°	6768	6621	6208
30°	6415	6209	5592
35°	6075	5738	5173
40°	5729	5230	4706
45°	5401	4835	4255
50°	5000	4488	3795
55°	4625	4067	3400
60°	4238	3633	3045
65°	3729	3181	2696
70°	3072	2785	2291
75°	2441	2133	2235
80°	1640	1537	1435
85°	1019	1229	1433

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5401 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.2	4.7
10°-20°	365.5	13.0
20°-30°	506.1	18.0
30°-40°	539.6	19.2
40°-50°	492.3	17.5
50°-60°	385.7	13.7
60°-70°	251.4	8.9
70°-80°	111.4	4.0
80°-90°	23.9	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°	1004.8	35.8
0°-40°	1544.4	55.0
0°-60°	2422.4	86.2
0°-90°	2809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2809.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1431	1431	1431	1431	1431	
5°	1406	1404	1404	1403	1403	133
15°	1315	1315	1302	1289	1284	370
25°	1140	1133	1115	1075	1045	523
35°	925	918	873	807	787	578
45°	710	695	635	582	559	547
55°	493	478	433	382	362	442
65°	293	276	250	255	212	289
75°	117	109	103	98	108	126
85°	16	18	20	22	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1430.9	1430.9	1430.9	1430.9	1430.9
2.5°	1420.9	1420.9	1420.9	1419.3	1419.3
5°	1406.1	1404.4	1404.4	1402.7	1402.7
7.5°	1394.5	1392.8	1391.2	1389.5	1386.2
10°	1377.9	1377.9	1376.3	1368.0	1366.4
12.5°	1351.5	1349.8	1343.2	1331.6	1328.3
15°	1315.1	1315.1	1301.8	1288.6	1283.6
17.5°	1275.4	1273.7	1257.2	1243.9	1237.3
20°	1232.4	1229.1	1212.5	1191.0	1179.4
22.5°	1184.4	1184.4	1164.5	1136.4	1124.8
25°	1139.7	1133.1	1114.9	1075.2	1045.4
27.5°	1088.5	1078.5	1058.7	1002.4	967.7
30°	1032.2	1027.2	999.1	926.3	899.9
32.5°	979.3	971.0	941.2	865.1	843.6
35°	924.7	918.1	873.4	807.2	787.4
37.5°	870.1	861.8	805.6	752.7	727.8
40°	815.5	805.6	744.4	696.4	669.9
42.5°	764.2	751.0	691.4	640.2	610.4
45°	709.6	694.8	635.2	582.3	559.1
47.5°	655.1	641.8	587.2	532.6	506.2
50°	597.2	585.6	536.0	481.4	453.2
52.5°	549.2	531.0	483.0	428.4	405.3
55°	492.9	478.1	433.4	382.1	362.3
57.5°	441.7	426.8	385.4	337.5	320.9
60°	393.7	372.2	337.5	296.1	282.9
62.5°	340.8	324.2	294.4	259.7	276.2
65°	292.8	276.2	249.8	254.7	211.7
67.5°	239.9	231.6	208.4	185.3	178.7
70°	195.2	185.3	177.0	152.2	145.6
72.5°	155.5	145.6	134.0	120.8	115.8
75°	117.4	109.2	102.6	97.6	107.5
77.5°	81.1	77.7	72.8	67.8	66.2
80°	52.9	51.3	49.6	48.0	46.3
82.5°	31.4	31.4	31.4	31.4	31.4
85°	16.5	18.2	19.9	21.5	23.2
87.5°	9.9	9.9	11.6	13.2	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)