

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: P561272

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561272  
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-LD4-1STD-50-UNV-80-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

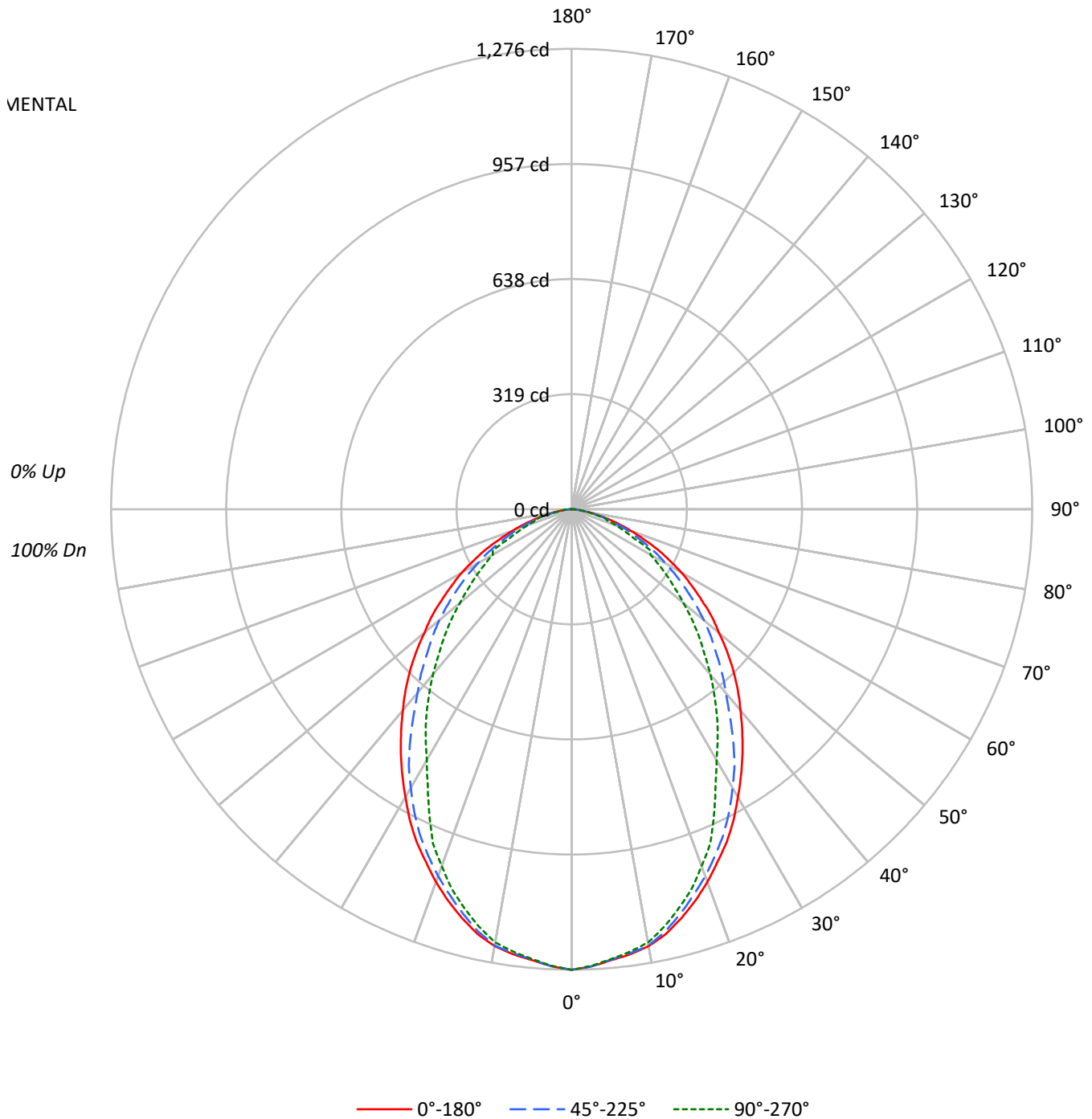
Lumens per Lamp: N/A  
Luminaire Lumens: 2506.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3435	3435	3435
5°	3388	3384	3380
10°	3359	3355	3331
15°	3268	3236	3190
20°	3148	3098	3013
25°	3019	2953	2769
30°	2861	2770	2495
35°	2710	2560	2308
40°	2556	2333	2100
45°	2409	2157	1898
50°	2230	2002	1693
55°	2063	1814	1516
60°	1890	1621	1358
65°	1663	1419	1203
70°	1370	1242	1022
75°	1090	951	997
80°	731	687	640
85°	457	546	639

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2409 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.8	4.7
10°-20°	326.1	13.0
20°-30°	451.5	18.0
30°-40°	481.4	19.2
40°-50°	439.2	17.5
50°-60°	344.1	13.7
60°-70°	224.2	8.9
70°-80°	99.3	4.0
80°-90°	21.3	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°	896.4	35.8
0°-40°	1377.8	55.0
0°-60°	2161.1	86.2
0°-90°	2506.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2506.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1276	1276	1276	1276	1276	
5°	1254	1253	1253	1251	1251	119
15°	1173	1173	1161	1150	1145	330
25°	1017	1011	995	959	933	467
35°	825	819	779	720	702	516
45°	633	620	567	520	499	488
55°	440	426	387	341	323	394
65°	261	246	223	227	189	257
75°	105	97	92	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1276.5	1276.5	1276.5	1276.5	1276.5
2.5°	1267.7	1267.7	1267.7	1266.2	1266.2
5°	1254.4	1252.9	1252.9	1251.4	1251.4
7.5°	1244.1	1242.6	1241.1	1239.6	1236.7
10°	1229.3	1229.3	1227.8	1220.4	1219.0
12.5°	1205.7	1204.2	1198.3	1188.0	1185.0
15°	1173.2	1173.2	1161.4	1149.6	1145.2
17.5°	1137.8	1136.3	1121.6	1109.8	1103.9
20°	1099.4	1096.5	1081.7	1062.5	1052.2
22.5°	1056.6	1056.6	1038.9	1013.8	1003.5
25°	1016.8	1010.9	994.7	959.2	932.7
27.5°	971.0	962.2	944.5	894.3	863.3
30°	920.9	916.4	891.4	826.4	802.8
32.5°	873.6	866.3	839.7	771.8	752.6
35°	824.9	819.0	779.2	720.2	702.5
37.5°	776.2	768.9	718.7	671.5	649.3
40°	727.5	718.7	664.1	621.3	597.7
42.5°	681.8	670.0	616.9	571.1	544.6
45°	633.1	619.8	566.7	519.5	498.8
47.5°	584.4	572.6	523.9	475.2	451.6
50°	532.7	522.4	478.1	429.4	404.4
52.5°	489.9	473.7	430.9	382.2	361.6
55°	439.8	426.5	386.6	340.9	323.2
57.5°	394.0	380.7	343.8	301.1	286.3
60°	351.2	332.0	301.1	264.2	252.4
62.5°	304.0	289.2	262.7	231.7	246.5
65°	261.2	246.5	222.8	227.3	188.9
67.5°	214.0	206.6	185.9	165.3	159.4
70°	174.1	165.3	157.9	135.8	129.9
72.5°	138.7	129.9	119.5	107.7	103.3
75°	104.8	97.4	91.5	87.1	95.9
77.5°	72.3	69.4	64.9	60.5	59.0
80°	47.2	45.7	44.3	42.8	41.3
82.5°	28.0	28.0	28.0	28.0	28.0
85°	14.8	16.2	17.7	19.2	20.7
87.5°	8.9	8.9	10.3	11.8	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)