

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: P563271

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563271  
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-LD4-3LO-35-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

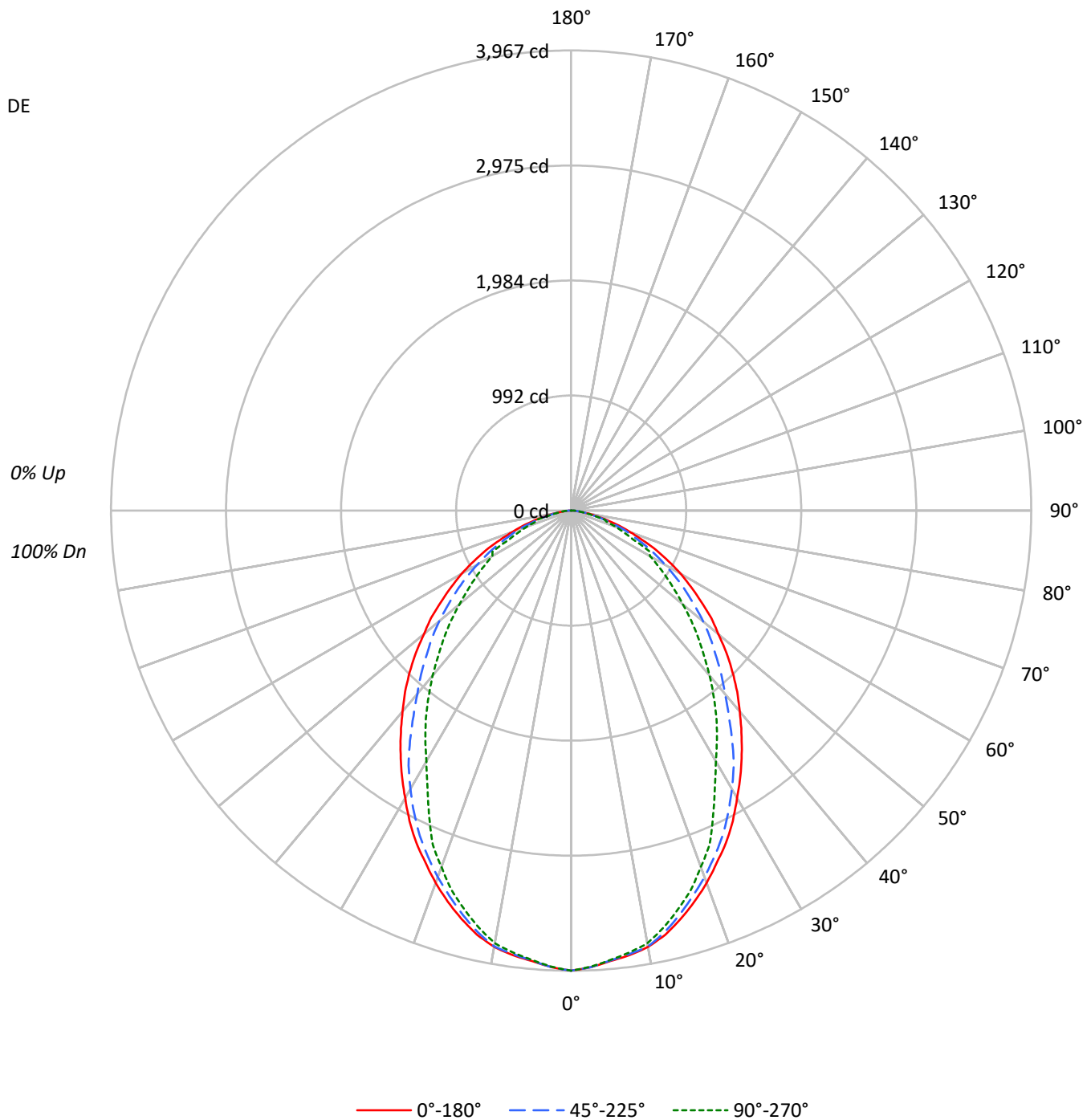
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7787.0 lumens  
Efficiency: N/A  
Efficacy: 110.9 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): 70.2  
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°	5337	5337	5337
5°	5264	5258	5252
10°	5219	5213	5175
15°	5078	5027	4957
20°	4892	4813	4682
25°	4691	4588	4302
30°	4446	4303	3876
35°	4210	3977	3585
40°	3971	3624	3262
45°	3743	3351	2949
50°	3465	3110	2630
55°	3206	2818	2356
60°	2937	2517	2110
65°	2584	2204	1869
70°	2129	1930	1587
75°	1693	1478	1550
80°	1137	1066	995
85°	709	849	991

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3743 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	369.2	4.7
10°-20°	1013.3	13.0
20°-30°	1402.9	18.0
30°-40°	1495.9	19.2
40°-50°	1364.7	17.5
50°-60°	1069.1	13.7
60°-70°	696.8	8.9
70°-80°	308.7	4.0
80°-90°	66.3	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°	2785.5	35.8
0°-40°	4281.4	55.0
0°-60°	6715.2	86.2
0°-90°	7787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7787.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3967	3967	3967	3967	3967	
5°	3898	3893	3893	3889	3889	370
15°	3646	3646	3609	3572	3558	1025
25°	3160	3141	3091	2981	2898	1451
35°	2563	2545	2421	2238	2183	1603
45°	1967	1926	1761	1614	1550	1515
55°	1366	1325	1201	1059	1004	1226
65°	812	766	692	706	587	800
75°	326	303	284	271	298	349
85°	46	50	55	60	64	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3966.6	3966.6	3966.6	3966.6	3966.6
2.5°	3939.1	3939.1	3939.1	3934.5	3934.5
5°	3897.8	3893.2	3893.2	3888.6	3888.6
7.5°	3865.7	3861.1	3856.5	3852.0	3842.8
10°	3819.9	3819.9	3815.3	3792.3	3787.8
12.5°	3746.5	3741.9	3723.6	3691.5	3682.3
15°	3645.6	3645.6	3608.9	3572.2	3558.5
17.5°	3535.5	3531.0	3485.1	3448.4	3430.1
20°	3416.3	3407.1	3361.3	3301.7	3269.6
22.5°	3283.3	3283.3	3228.3	3150.3	3118.2
25°	3159.5	3141.2	3090.7	2980.7	2898.1
27.5°	3017.4	2989.8	2934.8	2778.9	2682.6
30°	2861.5	2847.7	2769.7	2568.0	2494.6
32.5°	2714.7	2691.8	2609.2	2398.3	2338.7
35°	2563.4	2545.0	2421.2	2237.8	2182.8
37.5°	2412.1	2389.1	2233.2	2086.5	2017.7
40°	2260.7	2233.2	2063.5	1930.6	1857.2
42.5°	2118.6	2081.9	1916.8	1774.6	1692.1
45°	1967.2	1926.0	1760.9	1614.2	1550.0
47.5°	1815.9	1779.2	1627.9	1476.6	1403.2
50°	1655.4	1623.3	1485.8	1334.4	1256.5
52.5°	1522.4	1472.0	1339.0	1187.7	1123.5
55°	1366.5	1325.3	1201.4	1059.3	1004.3
57.5°	1224.4	1183.1	1068.5	935.5	889.6
60°	1091.4	1031.8	935.5	820.8	784.1
62.5°	944.6	898.8	816.2	719.9	765.8
65°	811.7	765.8	692.4	706.2	587.0
67.5°	664.9	642.0	577.8	513.6	495.3
70°	541.1	513.6	490.7	421.9	403.5
72.5°	431.1	403.5	371.4	334.8	321.0
75°	325.6	302.7	284.3	270.6	298.1
77.5°	224.7	215.5	201.8	188.0	183.4
80°	146.7	142.2	137.6	133.0	128.4
82.5°	87.1	87.1	87.1	87.1	87.1
85°	45.9	50.4	55.0	59.6	64.2
87.5°	27.5	27.5	32.1	36.7	41.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)