

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: P564025

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564025  
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-LD4-4STD-35-UNV-80-88-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

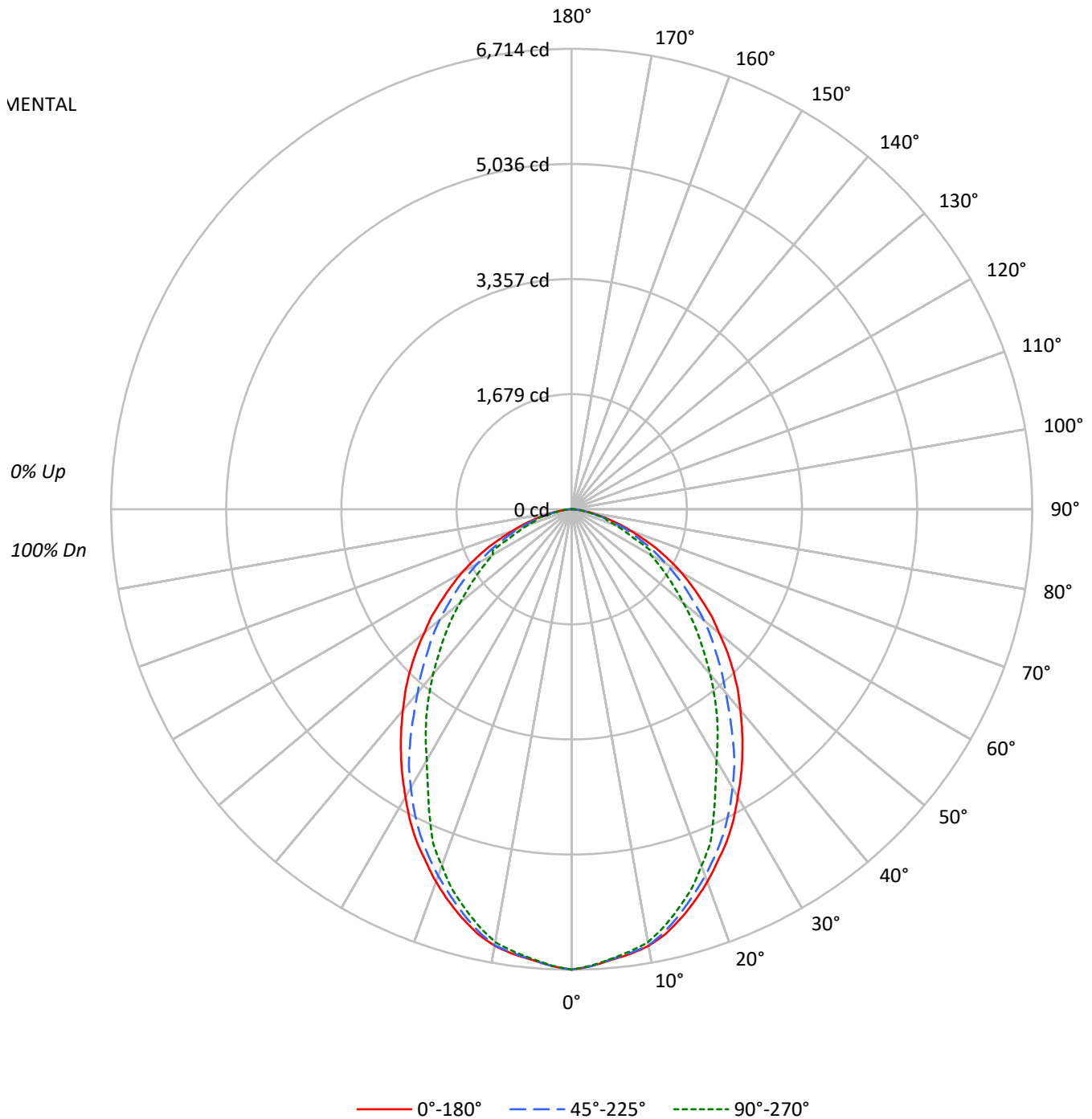
Lumens per Lamp: N/A  
Luminaire Lumens: 13180.0 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9033	9033	9033
5°	8911	8900	8890
10°	8833	8823	8759
15°	8595	8509	8390
20°	8279	8146	7924
25°	7939	7766	7282
30°	7525	7283	6560
35°	7126	6731	6068
40°	6721	6135	5521
45°	6336	5671	4992
50°	5865	5264	4452
55°	5426	4770	3987
60°	4971	4261	3571
65°	4374	3731	3163
70°	3603	3267	2687
75°	2865	2502	2623
80°	1925	1804	1684
85°	1198	1437	1678

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6336 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	625.0	4.7
10°-20°	1715.1	13.0
20°-30°	2374.5	18.0
30°-40°	2531.9	19.2
40°-50°	2309.8	17.5
50°-60°	1809.6	13.7
60°-70°	1179.4	8.9
70°-80°	522.5	4.0
80°-90°	112.2	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°	4714.6	35.8
0°-40°	7246.5	55.0
0°-60°	11365.9	86.2
0°-90°	13180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13180.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6714	6714	6714	6714	6714	
5°	6597	6590	6590	6582	6582	626
15°	6170	6170	6108	6046	6023	1735
25°	5348	5317	5231	5045	4905	2455
35°	4339	4308	4098	3788	3694	2712
45°	3330	3260	2980	2732	2623	2565
55°	2313	2243	2034	1793	1700	2075
65°	1374	1296	1172	1195	994	1354
75°	551	512	481	458	504	591
85°	78	85	93	101	109	108
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6713.7	6713.7	6713.7	6713.7	6713.7
2.5°	6667.1	6667.1	6667.1	6659.4	6659.4
5°	6597.3	6589.5	6589.5	6581.8	6581.8
7.5°	6543.0	6535.2	6527.4	6519.7	6504.2
10°	6465.3	6465.3	6457.6	6418.8	6411.0
12.5°	6341.2	6333.4	6302.4	6248.0	6232.5
15°	6170.4	6170.4	6108.3	6046.2	6022.9
17.5°	5984.1	5976.4	5898.8	5836.7	5805.6
20°	5782.3	5766.8	5689.2	5588.3	5534.0
22.5°	5557.2	5557.2	5464.1	5332.2	5277.8
25°	5347.7	5316.6	5231.3	5045.0	4905.3
27.5°	5107.1	5060.5	4967.4	4703.5	4540.5
30°	4843.2	4819.9	4688.0	4346.5	4222.3
32.5°	4594.8	4556.0	4416.3	4059.3	3958.4
35°	4338.7	4307.6	4098.1	3787.6	3694.5
37.5°	4082.6	4043.8	3779.9	3531.5	3415.1
40°	3826.4	3779.9	3492.7	3267.6	3143.4
42.5°	3585.8	3523.7	3244.3	3003.7	2864.0
45°	3329.7	3259.8	2980.4	2732.1	2623.4
47.5°	3073.6	3011.5	2755.3	2499.2	2375.0
50°	2801.9	2747.6	2514.7	2258.6	2126.7
52.5°	2576.8	2491.4	2266.4	2010.2	1901.6
55°	2312.9	2243.1	2033.5	1792.9	1699.8
57.5°	2072.3	2002.5	1808.4	1583.4	1505.7
60°	1847.2	1746.3	1583.4	1389.3	1327.2
62.5°	1598.9	1521.3	1381.6	1218.6	1296.2
65°	1373.8	1296.2	1172.0	1195.3	993.5
67.5°	1125.4	1086.6	978.0	869.3	838.2
70°	915.9	869.3	830.5	714.1	683.0
72.5°	729.6	683.0	628.7	566.6	543.3
75°	551.1	512.3	481.2	457.9	504.5
77.5°	380.3	364.8	341.5	318.2	310.5
80°	248.4	240.6	232.8	225.1	217.3
82.5°	147.5	147.5	147.5	147.5	147.5
85°	77.6	85.4	93.1	100.9	108.7
87.5°	46.6	46.6	54.3	62.1	69.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)