

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: P563640

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-80-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563640
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-LD4-4HI-35-UNV-80-88-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

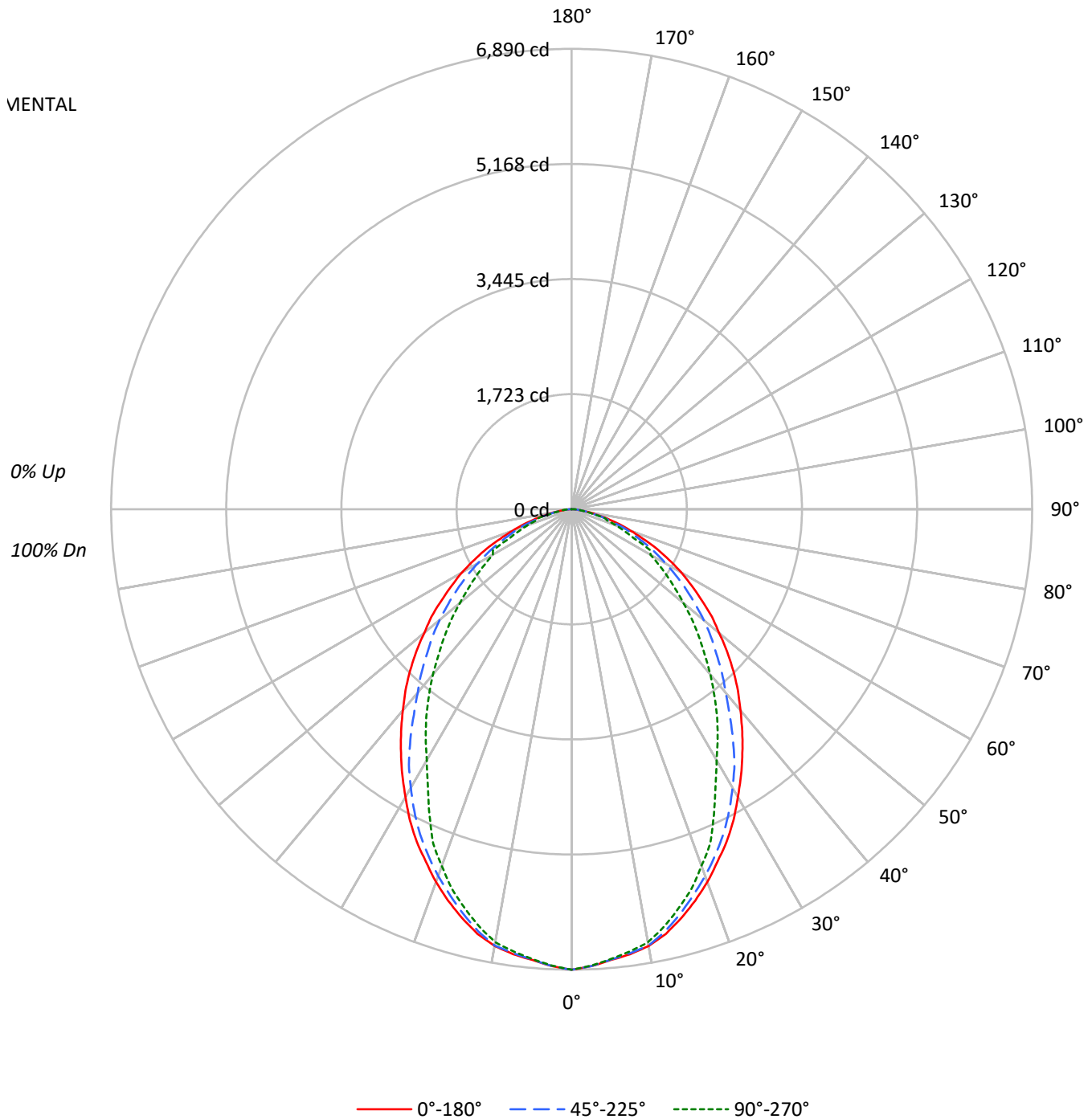
Lumens per Lamp: N/A
Luminaire Lumens: 13527.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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°	9271	9271	9271
5°	9145	9134	9124
10°	9066	9055	8990
15°	8821	8733	8611
20°	8497	8361	8132
25°	8148	7971	7474
30°	7723	7475	6733
35°	7314	6909	6228
40°	6898	6296	5667
45°	6503	5821	5123
50°	6019	5402	4569
55°	5568	4896	4092
60°	5102	4373	3666
65°	4489	3829	3246
70°	3698	3353	2758
75°	2940	2568	2692
80°	1975	1852	1728
85°	1230	1476	1721

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6503 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	641.4	4.7
10°-20°	1760.3	13.0
20°-30°	2437.0	18.0
30°-40°	2598.6	19.2
40°-50°	2370.7	17.5
50°-60°	1857.2	13.7
60°-70°	1210.4	8.9
70°-80°	536.3	4.0
80°-90°	115.2	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°	4838.7	35.8
0°-40°	7437.3	55.0
0°-60°	11665.1	86.2
0°-90°	13527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13527.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6890	6890	6890	6890	6890	
5°	6771	6763	6763	6755	6755	643
15°	6333	6333	6269	6205	6182	1780
25°	5488	5457	5369	5178	5034	2520
35°	4453	4421	4206	3887	3792	2784
45°	3417	3346	3059	2804	2692	2632
55°	2374	2302	2087	1840	1744	2129
65°	1410	1330	1203	1227	1020	1390
75°	566	526	494	470	518	606
85°	80	88	96	104	112	111
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6890.5	6890.5	6890.5	6890.5	6890.5
2.5°	6842.7	6842.7	6842.7	6834.7	6834.7
5°	6771.0	6763.0	6763.0	6755.1	6755.1
7.5°	6715.2	6707.3	6699.3	6691.3	6675.4
10°	6635.6	6635.6	6627.6	6587.8	6579.8
12.5°	6508.1	6500.1	6468.3	6412.5	6396.6
15°	6332.9	6332.9	6269.1	6205.4	6181.5
17.5°	6141.7	6133.7	6054.1	5990.3	5958.5
20°	5934.6	5918.6	5839.0	5735.4	5679.7
22.5°	5703.6	5703.6	5608.0	5472.5	5416.8
25°	5488.5	5456.6	5369.0	5177.8	5034.4
27.5°	5241.5	5193.7	5098.2	4827.3	4660.0
30°	4970.7	4946.8	4811.4	4460.9	4333.4
32.5°	4715.8	4676.0	4532.6	4166.1	4062.6
35°	4452.9	4421.1	4206.0	3887.3	3791.8
37.5°	4190.0	4150.2	3879.4	3624.5	3505.0
40°	3927.2	3879.4	3584.6	3353.6	3226.2
42.5°	3680.2	3616.5	3329.7	3082.8	2939.4
45°	3417.4	3345.7	3058.9	2804.0	2692.5
47.5°	3154.5	3090.8	2827.9	2565.0	2437.6
50°	2875.7	2819.9	2580.9	2318.1	2182.6
52.5°	2644.7	2557.0	2326.0	2063.2	1951.6
55°	2373.8	2302.1	2087.1	1840.1	1744.5
57.5°	2126.9	2055.2	1856.0	1625.0	1545.4
60°	1895.9	1792.3	1625.0	1425.9	1362.2
62.5°	1641.0	1561.3	1417.9	1250.6	1330.3
65°	1410.0	1330.3	1202.8	1226.7	1019.6
67.5°	1155.1	1115.2	1003.7	892.2	860.3
70°	940.0	892.2	852.3	732.9	701.0
72.5°	748.8	701.0	645.2	581.5	557.6
75°	565.6	525.7	493.9	470.0	517.8
77.5°	390.3	374.4	350.5	326.6	318.6
80°	254.9	246.9	239.0	231.0	223.0
82.5°	151.4	151.4	151.4	151.4	151.4
85°	79.7	87.6	95.6	103.6	111.5
87.5°	47.8	47.8	55.8	63.7	71.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)