

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: P564138

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564138
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-40-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13304.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

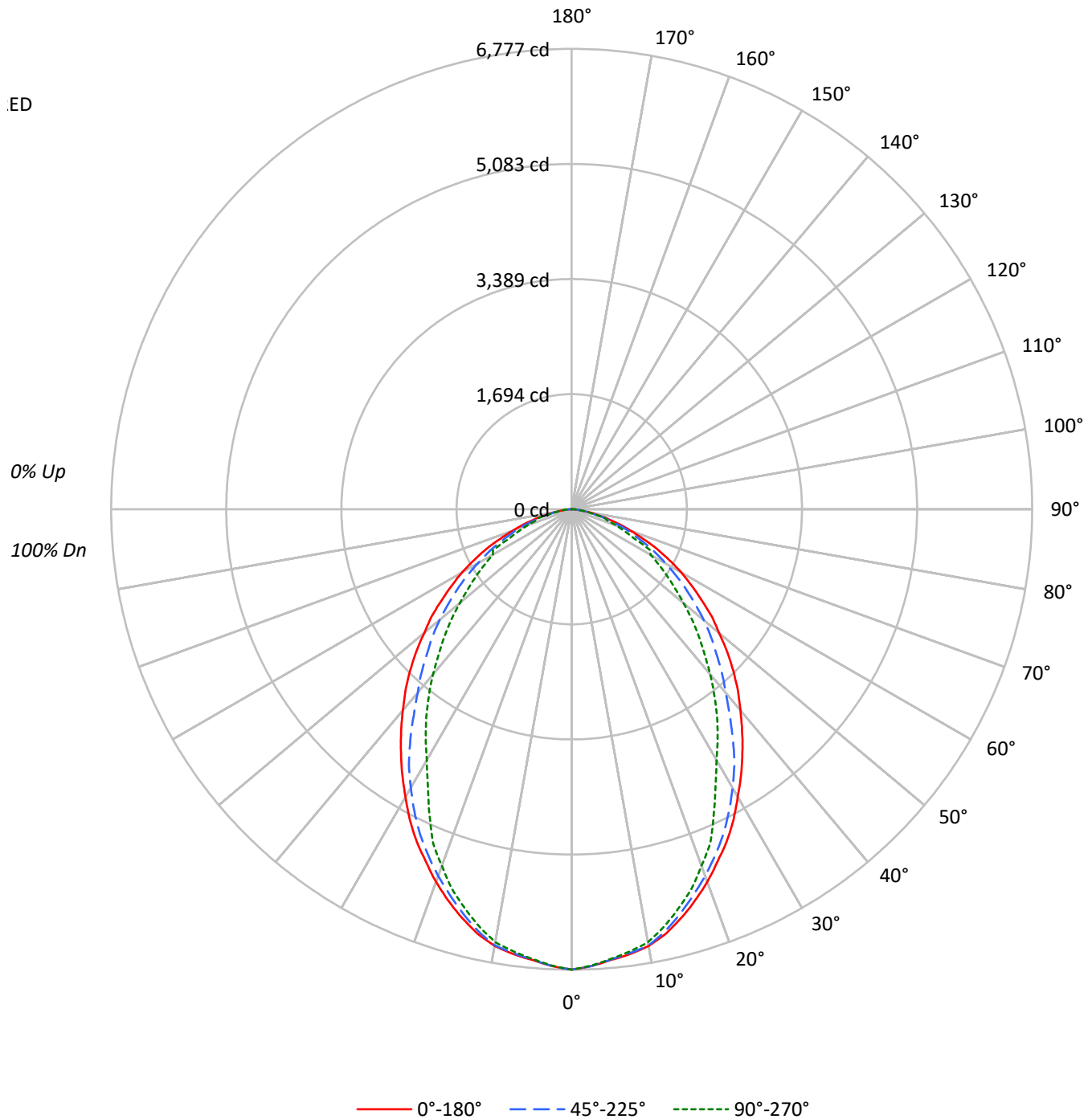
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P564138

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-93-94-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P564138

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-93-94-EDD-90

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°	9118	9118	9118
5°	8994	8984	8973
10°	8916	8906	8841
15°	8676	8589	8469
20°	8357	8223	7998
25°	8014	7839	7351
30°	7595	7352	6622
35°	7194	6795	6125
40°	6784	6192	5573
45°	6395	5725	5039
50°	5920	5313	4493
55°	5477	4815	4025
60°	5018	4301	3605
65°	4415	3766	3193
70°	3637	3298	2712
75°	2892	2525	2647
80°	1943	1821	1700
85°	1209	1451	1694

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6395 cd/sqm



TEST NUMBER: P564138

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-93-94-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	630.8	4.7
10°-20°	1731.3	13.0
20°-30°	2396.8	18.0
30°-40°	2555.7	19.2
40°-50°	2331.6	17.5
50°-60°	1826.6	13.7
60°-70°	1190.5	8.9
70°-80°	527.4	4.0
80°-90°	113.2	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°	4758.9	35.8
0°-40°	7314.7	55.0
0°-60°	11472.8	86.2
0°-90°	13304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13304.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6777	6777	6777	6777	6777	
5°	6659	6652	6652	6644	6644	632
15°	6228	6228	6166	6103	6080	1751
25°	5398	5367	5280	5092	4951	2478
35°	4380	4348	4137	3823	3729	2738
45°	3361	3290	3008	2758	2648	2589
55°	2335	2264	2053	1810	1716	2094
65°	1387	1308	1183	1206	1003	1367
75°	556	517	486	462	509	596
85°	78	86	94	102	110	109
90°	0	0	0	0	0	



TEST NUMBER: P564138

CATALOG NUMBER: FSR-24-4-LD4-4STD-40-UNV-93-94-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6776.9	6776.9	6776.9	6776.9	6776.9
2.5°	6729.9	6729.9	6729.9	6722.0	6722.0
5°	6659.4	6651.5	6651.5	6643.7	6643.7
7.5°	6604.5	6596.7	6588.9	6581.0	6565.3
10°	6526.2	6526.2	6518.3	6479.2	6471.3
12.5°	6400.8	6393.0	6361.6	6306.8	6291.1
15°	6228.5	6228.5	6165.8	6103.1	6079.6
17.5°	6040.4	6032.6	5954.3	5891.6	5860.2
20°	5836.7	5821.1	5742.7	5640.9	5586.0
22.5°	5609.5	5609.5	5515.5	5382.3	5327.5
25°	5398.0	5366.7	5280.5	5092.5	4951.4
27.5°	5155.1	5108.1	5014.1	4747.7	4583.2
30°	4888.8	4865.3	4732.1	4387.3	4262.0
32.5°	4638.0	4598.9	4457.9	4097.5	3995.6
35°	4379.5	4348.2	4136.6	3823.3	3729.2
37.5°	4121.0	4081.8	3815.4	3564.7	3447.2
40°	3862.4	3815.4	3525.5	3298.3	3173.0
42.5°	3619.6	3556.9	3274.8	3032.0	2890.9
45°	3361.0	3290.5	3008.5	2757.8	2648.1
47.5°	3102.5	3039.8	2781.3	2522.7	2397.4
50°	2828.3	2773.4	2538.4	2279.9	2146.7
52.5°	2601.1	2514.9	2287.7	2029.1	1919.5
55°	2334.7	2264.2	2052.7	1809.8	1715.8
57.5°	2091.8	2021.3	1825.4	1598.2	1519.9
60°	1864.6	1762.8	1598.2	1402.4	1339.7
62.5°	1613.9	1535.6	1394.5	1230.0	1308.4
65°	1386.7	1308.4	1183.0	1206.5	1002.8
67.5°	1136.0	1096.8	987.2	877.5	846.1
70°	924.5	877.5	838.3	720.8	689.4
72.5°	736.4	689.4	634.6	571.9	548.4
75°	556.3	517.1	485.7	462.2	509.2
77.5°	383.9	368.2	344.7	321.2	313.4
80°	250.7	242.9	235.0	227.2	219.4
82.5°	148.9	148.9	148.9	148.9	148.9
85°	78.3	86.2	94.0	101.8	109.7
87.5°	47.0	47.0	54.8	62.7	70.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)