

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: P564170

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564170
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-50-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13282.0 lumens
Efficiency: N/A
Efficacy: 99.7 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

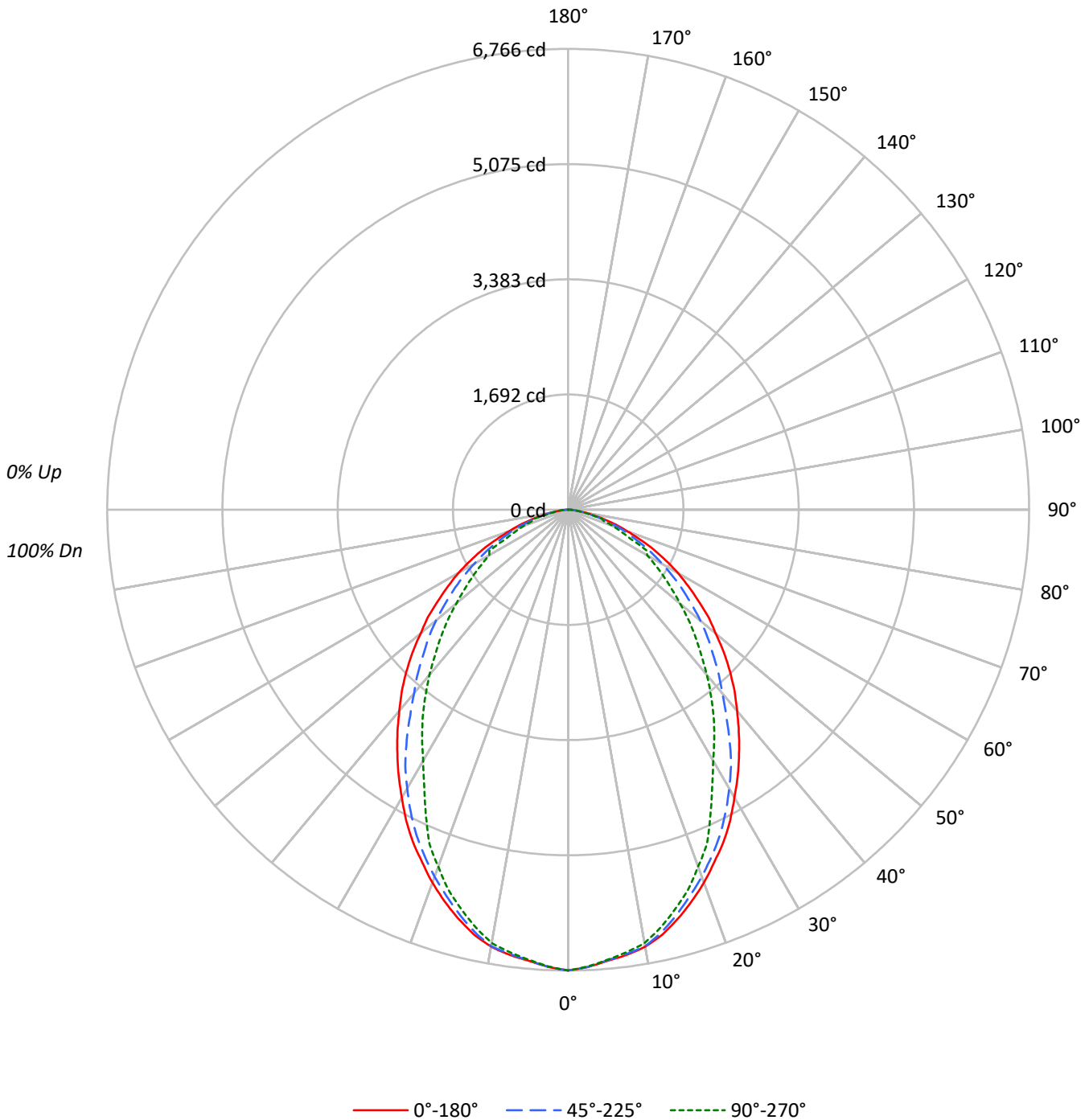
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9103	9103	9103
5°	8979	8969	8958
10°	8902	8891	8827
15°	8662	8574	8455
20°	8343	8209	7985
25°	8001	7826	7339
30°	7583	7340	6611
35°	7182	6783	6115
40°	6773	6182	5564
45°	6385	5715	5030
50°	5910	5305	4486
55°	5468	4807	4018
60°	5009	4294	3599
65°	4408	3760	3188
70°	3631	3292	2708
75°	2887	2521	2643
80°	1939	1818	1697
85°	1207	1450	1690

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6385 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	629.8	4.7
10°-20°	1728.4	13.0
20°-30°	2392.9	18.0
30°-40°	2551.5	19.2
40°-50°	2327.7	17.5
50°-60°	1823.6	13.7
60°-70°	1188.5	8.9
70°-80°	526.6	4.0
80°-90°	113.1	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°	4751.1	35.8
0°-40°	7302.6	55.0
0°-60°	11453.9	86.2
0°-90°	13282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13282.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6766	6766	6766	6766	6766	
5°	6648	6640	6640	6633	6633	631
15°	6218	6218	6156	6093	6070	1748
25°	5389	5358	5272	5084	4943	2474
35°	4372	4341	4130	3817	3723	2733
45°	3356	3285	3004	2753	2644	2585
55°	2331	2260	2049	1807	1713	2091
65°	1384	1306	1181	1204	1001	1364
75°	555	516	485	462	508	595
85°	78	86	94	102	110	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6765.7	6765.7	6765.7	6765.7	6765.7
2.5°	6718.7	6718.7	6718.7	6710.9	6710.9
5°	6648.3	6640.5	6640.5	6632.7	6632.7
7.5°	6593.6	6585.8	6578.0	6570.1	6554.5
10°	6515.4	6515.4	6507.6	6468.5	6460.6
12.5°	6390.2	6382.4	6351.1	6296.4	6280.7
15°	6218.2	6218.2	6155.6	6093.0	6069.6
17.5°	6030.4	6022.6	5944.4	5881.8	5850.5
20°	5827.1	5811.4	5733.2	5631.5	5576.8
22.5°	5600.3	5600.3	5506.4	5373.4	5318.7
25°	5389.1	5357.8	5271.8	5084.0	4943.2
27.5°	5146.6	5099.7	5005.8	4739.9	4575.6
30°	4880.7	4857.2	4724.2	4380.1	4254.9
32.5°	4630.4	4591.3	4450.5	4090.7	3989.0
35°	4372.3	4341.0	4129.8	3816.9	3723.1
37.5°	4114.2	4075.0	3809.1	3558.8	3441.5
40°	3856.0	3809.1	3519.7	3292.9	3167.7
42.5°	3613.6	3551.0	3269.4	3027.0	2886.2
45°	3355.5	3285.1	3003.5	2753.2	2643.7
47.5°	3097.3	3034.8	2776.7	2518.6	2393.4
50°	2823.6	2768.8	2534.2	2276.1	2143.1
52.5°	2596.8	2510.7	2283.9	2025.8	1916.3
55°	2330.8	2260.4	2049.3	1806.8	1712.9
57.5°	2088.4	2018.0	1822.4	1595.6	1517.4
60°	1861.5	1759.9	1595.6	1400.1	1337.5
62.5°	1611.2	1533.0	1392.2	1228.0	1306.2
65°	1384.4	1306.2	1181.1	1204.5	1001.2
67.5°	1134.1	1095.0	985.5	876.0	844.7
70°	922.9	876.0	836.9	719.6	688.3
72.5°	735.2	688.3	633.5	571.0	547.5
75°	555.3	516.2	484.9	461.5	508.4
77.5°	383.3	367.6	344.1	320.7	312.9
80°	250.3	242.5	234.6	226.8	219.0
82.5°	148.6	148.6	148.6	148.6	148.6
85°	78.2	86.0	93.9	101.7	109.5
87.5°	46.9	46.9	54.8	62.6	70.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)