

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: P564050

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564050
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-82-85-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11906.0 lumens
Efficiency: N/A
Efficacy: 89.4 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

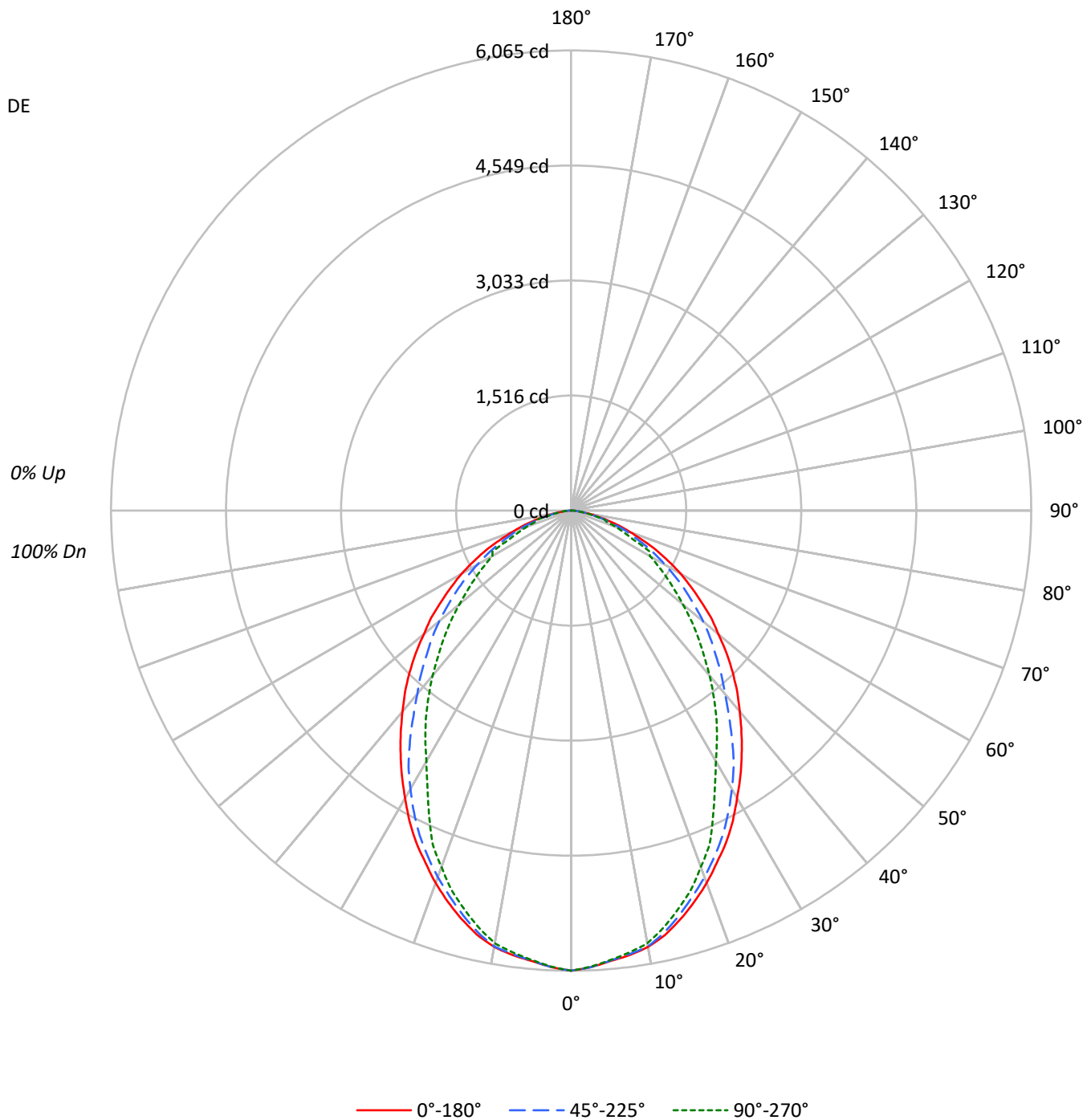
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8160	8160	8160
5°	8049	8040	8030
10°	7979	7970	7912
15°	7764	7686	7579
20°	7479	7359	7158
25°	7172	7016	6578
30°	6797	6579	5926
35°	6438	6081	5482
40°	6071	5542	4988
45°	5723	5123	4509
50°	5298	4755	4021
55°	4901	4309	3602
60°	4490	3849	3226
65°	3951	3371	2857
70°	3255	2951	2427
75°	2588	2260	2369
80°	1739	1629	1521
85°	1082	1298	1516

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5723 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	564.5	4.7
10°-20°	1549.4	13.0
20°-30°	2145.0	18.0
30°-40°	2287.2	19.2
40°-50°	2086.6	17.5
50°-60°	1634.7	13.7
60°-70°	1065.4	8.9
70°-80°	472.0	4.0
80°-90°	101.3	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°	4258.9	35.8
0°-40°	6546.0	55.0
0°-60°	10267.3	86.2
0°-90°	11906.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11906.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6065	6065	6065	6065	6065	
5°	5960	5953	5953	5946	5946	566
15°	5574	5574	5518	5462	5441	1567
25°	4831	4803	4726	4557	4431	2218
35°	3919	3891	3702	3422	3337	2450
45°	3008	2945	2692	2468	2370	2317
55°	2089	2026	1837	1620	1536	1874
65°	1241	1171	1059	1080	897	1223
75°	498	463	435	414	456	534
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6064.8	6064.8	6064.8	6064.8	6064.8
2.5°	6022.7	6022.7	6022.7	6015.7	6015.7
5°	5959.6	5952.6	5952.6	5945.6	5945.6
7.5°	5910.5	5903.5	5896.5	5889.5	5875.5
10°	5840.4	5840.4	5833.4	5798.3	5791.3
12.5°	5728.2	5721.2	5693.2	5644.1	5630.1
15°	5574.0	5574.0	5517.9	5461.8	5440.8
17.5°	5405.7	5398.7	5328.6	5272.5	5244.4
20°	5223.4	5209.4	5139.3	5048.1	4999.0
22.5°	5020.1	5020.1	4935.9	4816.7	4767.7
25°	4830.8	4802.7	4725.6	4557.3	4431.1
27.5°	4613.4	4571.4	4487.2	4248.8	4101.6
30°	4375.0	4354.0	4234.8	3926.3	3814.1
32.5°	4150.7	4115.6	3989.4	3666.9	3575.8
35°	3919.3	3891.3	3702.0	3421.5	3337.4
37.5°	3687.9	3652.9	3414.5	3190.1	3085.0
40°	3456.6	3414.5	3155.1	2951.7	2839.6
42.5°	3239.2	3183.1	2930.7	2713.4	2587.2
45°	3007.8	2944.7	2692.3	2468.0	2369.8
47.5°	2776.5	2720.4	2489.0	2257.6	2145.5
50°	2531.1	2482.0	2271.7	2040.3	1921.1
52.5°	2327.7	2250.6	2047.3	1815.9	1717.8
55°	2089.4	2026.3	1837.0	1619.6	1535.5
57.5°	1872.0	1808.9	1633.6	1430.3	1360.2
60°	1668.7	1577.5	1430.3	1255.0	1198.9
62.5°	1444.3	1374.2	1248.0	1100.8	1170.9
65°	1241.0	1170.9	1058.7	1079.7	897.4
67.5°	1016.6	981.6	883.4	785.3	757.2
70°	827.3	785.3	750.2	645.0	617.0
72.5°	659.1	617.0	567.9	511.8	490.8
75°	497.8	462.7	434.7	413.7	455.7
77.5°	343.6	329.5	308.5	287.5	280.5
80°	224.4	217.3	210.3	203.3	196.3
82.5°	133.2	133.2	133.2	133.2	133.2
85°	70.1	77.1	84.1	91.1	98.2
87.5°	42.1	42.1	49.1	56.1	63.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)