

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: P564046

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564046
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-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11858.0 lumens
Efficiency: N/A
Efficacy: 89.0 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

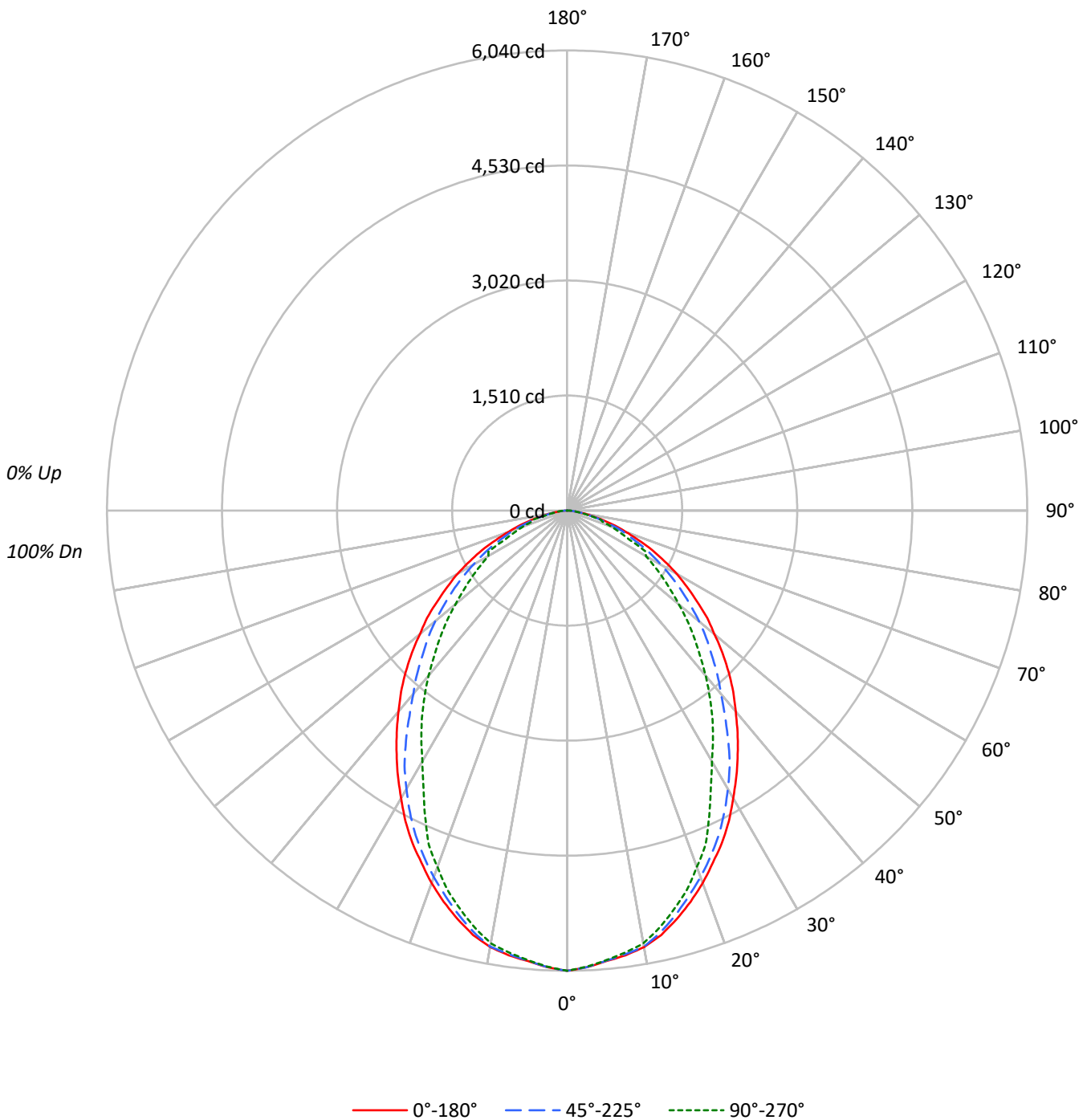
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P564046

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-81-97-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P564046

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-81-97-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	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°	8127	8127	8127
5°	8017	8007	7998
10°	7947	7938	7881
15°	7733	7655	7548
20°	7449	7329	7129
25°	7143	6987	6552
30°	6770	6553	5902
35°	6412	6056	5460
40°	6047	5519	4967
45°	5700	5102	4491
50°	5277	4736	4005
55°	4881	4292	3587
60°	4472	3833	3213
65°	3935	3357	2846
70°	3242	2939	2417
75°	2577	2250	2360
80°	1732	1623	1515
85°	1078	1294	1510

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5700 cd/sqm



TEST NUMBER: P564046

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-81-97-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	562.3	4.7
10°-20°	1543.1	13.0
20°-30°	2136.3	18.0
30°-40°	2277.9	19.2
40°-50°	2078.2	17.5
50°-60°	1628.1	13.7
60°-70°	1061.1	8.9
70°-80°	470.1	4.0
80°-90°	100.9	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°	4241.7	35.8
0°-40°	6519.6	55.0
0°-60°	10225.9	86.2
0°-90°	11858.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11858.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6040	6040	6040	6040	6040	
5°	5936	5929	5929	5922	5922	563
15°	5552	5552	5496	5440	5419	1561
25°	4811	4783	4707	4539	4413	2209
35°	3904	3876	3687	3408	3324	2440
45°	2996	2933	2682	2458	2360	2308
55°	2081	2018	1830	1613	1529	1866
65°	1236	1166	1054	1075	894	1218
75°	496	461	433	412	454	531
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



TEST NUMBER: P564046

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-81-97-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6040.3	6040.3	6040.3	6040.3	6040.3
2.5°	5998.4	5998.4	5998.4	5991.4	5991.4
5°	5935.6	5928.6	5928.6	5921.6	5921.6
7.5°	5886.7	5879.7	5872.7	5865.7	5851.8
10°	5816.9	5816.9	5809.9	5775.0	5768.0
12.5°	5705.1	5698.1	5670.2	5621.3	5607.4
15°	5551.5	5551.5	5495.6	5439.8	5418.8
17.5°	5383.9	5376.9	5307.1	5251.2	5223.3
20°	5202.3	5188.4	5118.5	5027.8	4978.9
22.5°	4999.8	4999.8	4916.0	4797.3	4748.4
25°	4811.3	4783.4	4706.6	4539.0	4413.3
27.5°	4594.8	4552.9	4469.1	4231.7	4085.1
30°	4357.4	4336.5	4217.7	3910.5	3798.8
32.5°	4133.9	4099.0	3973.3	3652.1	3561.3
35°	3903.5	3875.6	3687.0	3407.7	3323.9
37.5°	3673.1	3638.2	3400.7	3177.3	3072.5
40°	3442.6	3400.7	3142.4	2939.8	2828.1
42.5°	3226.2	3170.3	2918.9	2702.4	2576.7
45°	2995.7	2932.9	2681.5	2458.0	2360.3
47.5°	2765.3	2709.4	2479.0	2248.5	2136.8
50°	2520.9	2472.0	2262.5	2032.1	1913.3
52.5°	2318.4	2241.5	2039.0	1808.6	1710.8
55°	2080.9	2018.1	1829.5	1613.1	1529.3
57.5°	1864.5	1801.6	1627.0	1424.5	1354.7
60°	1662.0	1571.2	1424.5	1250.0	1194.1
62.5°	1438.5	1368.7	1243.0	1096.3	1166.2
65°	1236.0	1166.2	1054.4	1075.4	893.8
67.5°	1012.5	977.6	879.9	782.1	754.2
70°	824.0	782.1	747.2	642.4	614.5
72.5°	656.4	614.5	565.6	509.8	488.8
75°	495.8	460.9	432.9	412.0	453.9
77.5°	342.2	328.2	307.3	286.3	279.3
80°	223.5	216.5	209.5	202.5	195.5
82.5°	132.7	132.7	132.7	132.7	132.7
85°	69.8	76.8	83.8	90.8	97.8
87.5°	41.9	41.9	48.9	55.9	62.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)