

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: P564097

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564097
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-81-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14977.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

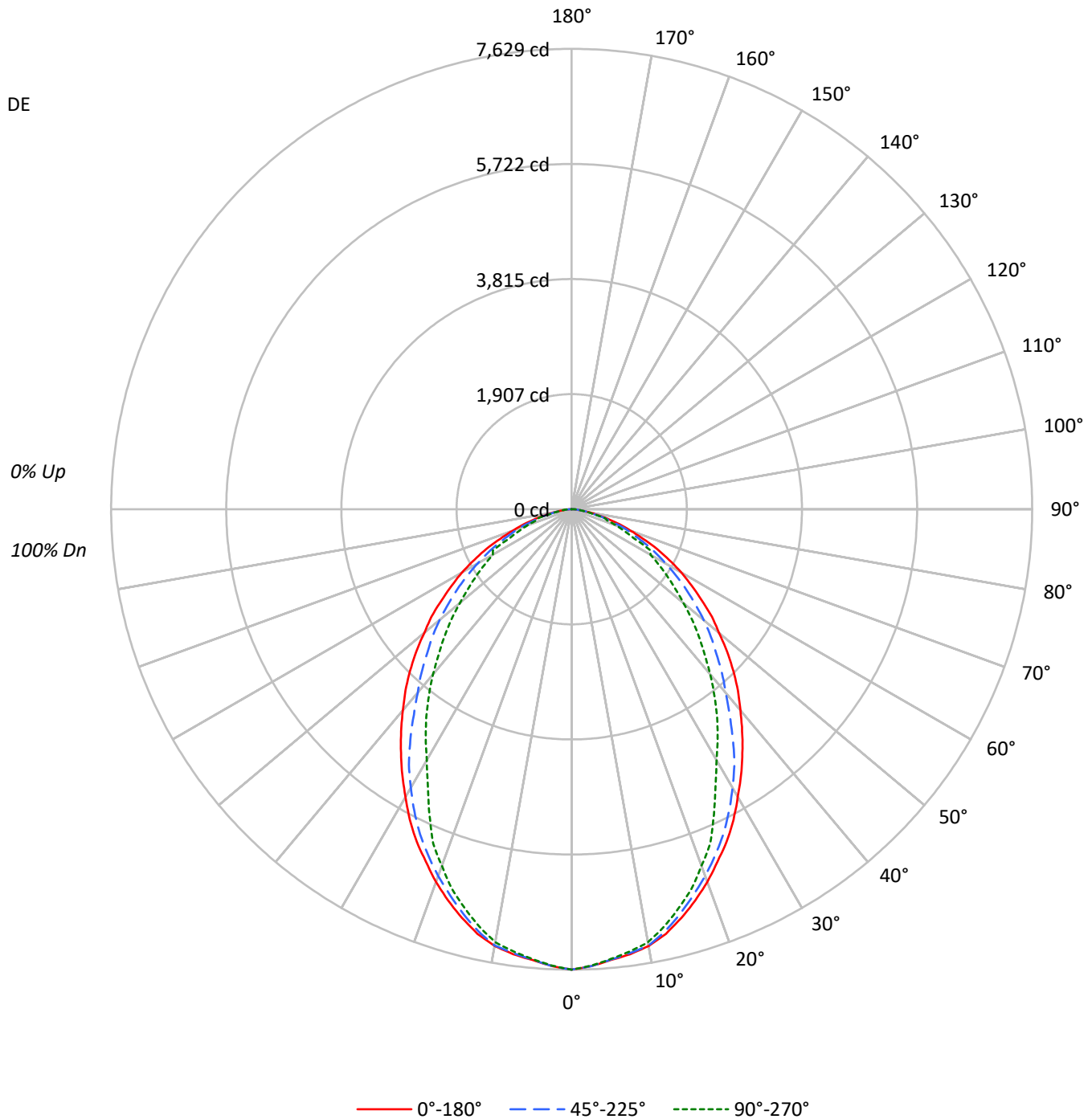
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10265	10265	10265
5°	10125	10114	10101
10°	10038	10026	9953
15°	9767	9669	9534
20°	9408	9257	9004
25°	9022	8825	8275
30°	8550	8276	7454
35°	8098	7649	6896
40°	7637	6971	6274
45°	7200	6444	5672
50°	6665	5982	5058
55°	6165	5421	4531
60°	5649	4842	4059
65°	4970	4240	3594
70°	4094	3712	3053
75°	3255	2843	2980
80°	2187	2050	1914
85°	1362	1633	1907

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7200 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	710.2	4.7
10°-20°	1949.0	13.0
20°-30°	2698.2	18.0
30°-40°	2877.1	19.2
40°-50°	2624.8	17.5
50°-60°	2056.3	13.7
60°-70°	1340.2	8.9
70°-80°	593.8	4.0
80°-90°	127.5	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°	5357.4	35.8
0°-40°	8234.5	55.0
0°-60°	12915.6	86.2
0°-90°	14977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7629	7629	7629	7629	7629	
5°	7497	7488	7488	7479	7479	712
15°	7012	7012	6941	6871	6844	1971
25°	6077	6042	5944	5733	5574	2790
35°	4930	4895	4657	4304	4198	3082
45°	3784	3704	3387	3105	2981	2915
55°	2628	2549	2311	2037	1932	2357
65°	1561	1473	1332	1358	1129	1538
75°	626	582	547	520	573	671
85°	88	97	106	115	124	122
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7629.1	7629.1	7629.1	7629.1	7629.1
2.5°	7576.2	7576.2	7576.2	7567.3	7567.3
5°	7496.8	7488.0	7488.0	7479.1	7479.1
7.5°	7435.0	7426.2	7417.4	7408.6	7391.0
10°	7346.9	7346.9	7338.0	7293.9	7285.1
12.5°	7205.7	7196.9	7161.6	7099.9	7082.3
15°	7011.7	7011.7	6941.1	6870.6	6844.1
17.5°	6800.0	6791.2	6703.0	6632.5	6597.2
20°	6570.7	6553.1	6464.9	6350.2	6288.5
22.5°	6314.9	6314.9	6209.1	6059.2	5997.4
25°	6076.8	6041.5	5944.5	5732.8	5574.1
27.5°	5803.4	5750.5	5644.6	5344.8	5159.6
30°	5503.5	5477.1	5327.1	4939.1	4797.9
32.5°	5221.3	5177.2	5018.4	4612.7	4498.1
35°	4930.2	4895.0	4656.8	4304.0	4198.2
37.5°	4639.2	4595.1	4295.2	4013.0	3880.7
40°	4348.1	4295.2	3968.9	3713.1	3572.0
42.5°	4074.7	4004.2	3686.7	3413.2	3254.5
45°	3783.7	3704.3	3386.8	3104.6	2981.1
47.5°	3492.6	3422.1	3131.0	2840.0	2698.8
50°	3183.9	3122.2	2857.6	2566.5	2416.6
52.5°	2928.2	2831.1	2575.4	2284.3	2160.8
55°	2628.3	2548.9	2310.8	2037.4	1931.5
57.5°	2354.9	2275.5	2055.0	1799.2	1711.0
60°	2099.1	1984.4	1799.2	1578.7	1508.2
62.5°	1816.9	1728.7	1569.9	1384.7	1472.9
65°	1561.1	1472.9	1331.8	1358.2	1128.9
67.5°	1278.9	1234.8	1111.3	987.8	952.5
70°	1040.7	987.8	943.7	811.4	776.1
72.5°	829.1	776.1	714.4	643.8	617.4
75°	626.2	582.1	546.8	520.4	573.3
77.5°	432.2	414.5	388.1	361.6	352.8
80°	282.2	273.4	264.6	255.8	247.0
82.5°	167.6	167.6	167.6	167.6	167.6
85°	88.2	97.0	105.8	114.7	123.5
87.5°	52.9	52.9	61.7	70.6	79.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)