

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: P590292

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590292
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2LO-40-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

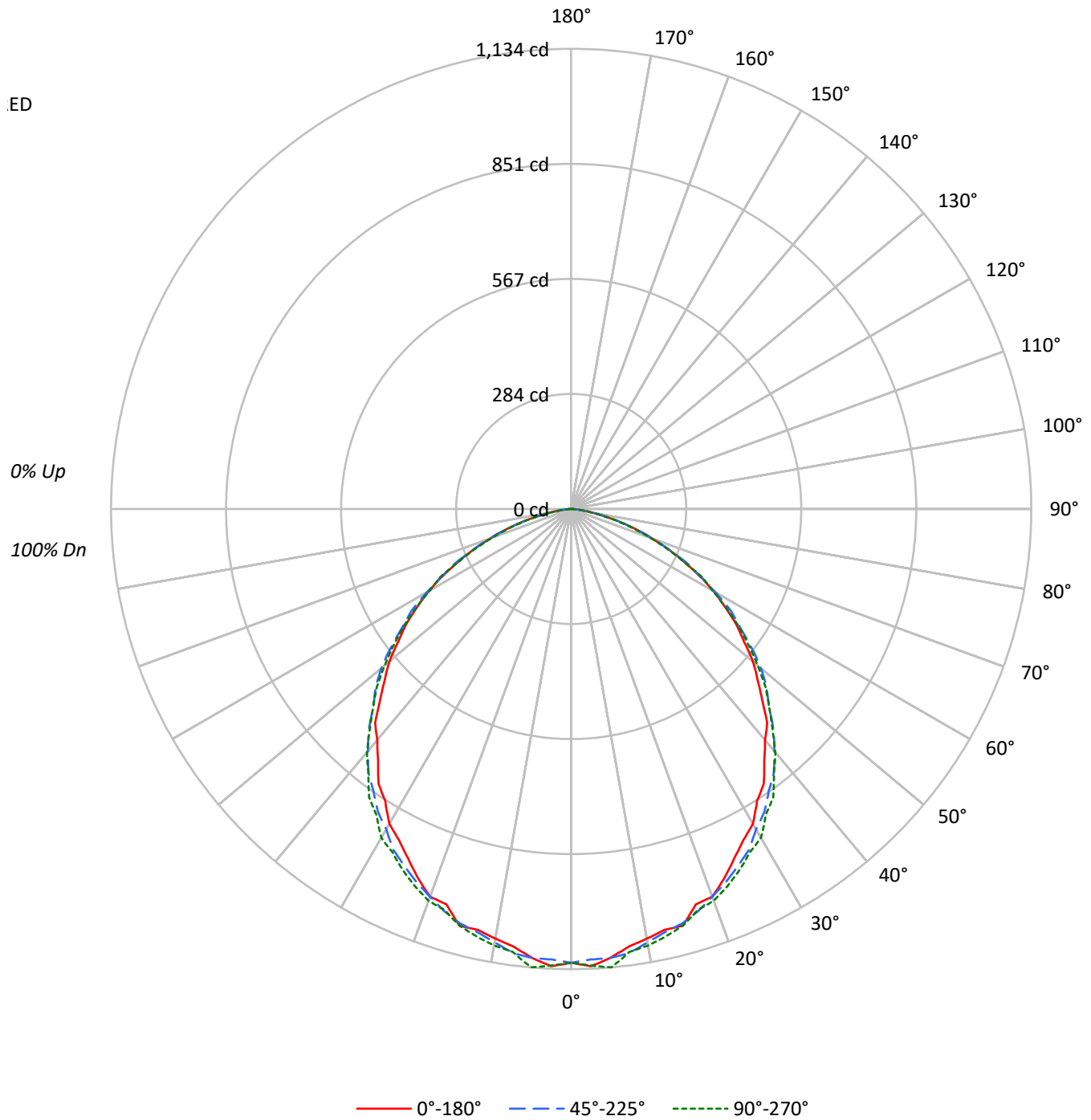
Lumens per Lamp: N/A
Luminaire Lumens: 2818.0 lumens
Efficiency: N/A
Efficacy: 120.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3009	3009	3009
5°	2999	3000	3063
10°	2938	2964	2985
15°	2961	2945	2962
20°	2911	2911	2942
25°	2822	2883	2915
30°	2783	2832	2907
35°	2717	2789	2851
40°	2612	2738	2750
45°	2533	2623	2627
50°	2449	2560	2511
55°	2334	2380	2362
60°	2182	2204	2165
65°	1946	1996	1933
70°	1670	1675	1629
75°	1323	1319	1268
80°	886	862	828
85°	482	475	445

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2691 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	3.7
10°-20°	298.1	10.6
20°-30°	446.6	15.8
30°-40°	529.3	18.8
40°-50°	530.3	18.8
50°-60°	450.1	16.0
60°-70°	303.5	10.8
70°-80°	133.3	4.7
80°-90°	21.7	0.8
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°	849.8	30.2
0°-40°	1379.1	48.9
0°-60°	2359.5	83.7
0°-90°	2818.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2818.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1118	1118	1118	1118	1118	
5°	1110	1108	1111	1107	1134	105
15°	1063	1051	1057	1063	1063	296
25°	950	956	971	984	982	439
35°	827	830	849	868	868	514
45°	666	678	689	707	690	515
55°	498	494	507	504	504	443
65°	306	302	313	301	304	304
75°	127	125	127	118	122	136
85°	16	15	15	15	14	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1118.1	1118.1	1118.1	1118.1	1118.1
2.5°	1127.8	1119.3	1111.3	1120.6	1126.2
5°	1110.2	1107.6	1110.6	1107.3	1134.0
7.5°	1087.4	1097.3	1103.1	1099.5	1101.1
10°	1075.2	1071.8	1084.6	1093.6	1092.3
12.5°	1062.2	1067.4	1068.2	1077.8	1078.7
15°	1063.0	1050.7	1057.2	1062.7	1063.1
17.5°	1021.7	1035.0	1039.4	1052.0	1036.4
20°	1016.6	1006.9	1016.6	1029.5	1027.4
22.5°	985.6	974.8	995.5	1006.9	1006.2
25°	950.4	955.6	971.1	983.9	981.8
27.5°	919.5	925.5	947.8	965.2	954.0
30°	895.6	892.6	911.4	927.0	935.6
32.5°	853.1	864.0	886.0	901.4	893.2
35°	827.2	829.7	848.9	868.5	867.9
37.5°	782.0	793.4	820.4	825.9	820.9
40°	743.5	754.9	779.3	785.2	782.8
42.5°	715.0	717.1	738.0	744.8	734.0
45°	665.5	677.9	689.2	707.0	690.2
47.5°	623.4	629.1	653.4	658.2	649.4
50°	585.1	587.1	611.5	605.6	599.8
52.5°	537.0	545.6	559.3	558.1	551.3
55°	497.5	494.2	507.2	503.7	503.5
57.5°	450.0	455.8	466.4	461.0	452.2
60°	405.5	405.7	409.6	403.4	402.2
62.5°	356.0	357.7	358.6	351.0	363.4
65°	305.6	301.6	313.4	301.4	303.5
67.5°	259.3	261.3	260.1	252.6	255.5
70°	212.2	214.8	212.9	204.4	207.0
72.5°	169.2	166.0	168.0	157.4	162.3
75°	127.2	124.6	126.9	117.9	122.0
77.5°	86.6	88.6	87.2	82.4	85.2
80°	57.2	55.6	55.6	52.8	53.4
82.5°	33.3	31.8	31.3	30.5	31.8
85°	15.6	15.2	15.4	15.0	14.4
87.5°	5.6	5.8	5.8	5.5	5.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)