

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: P563471

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563471
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-LD4-3STD-35-UNV-81-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10629.0 lumens
Efficiency: N/A
Efficacy: 106.4 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

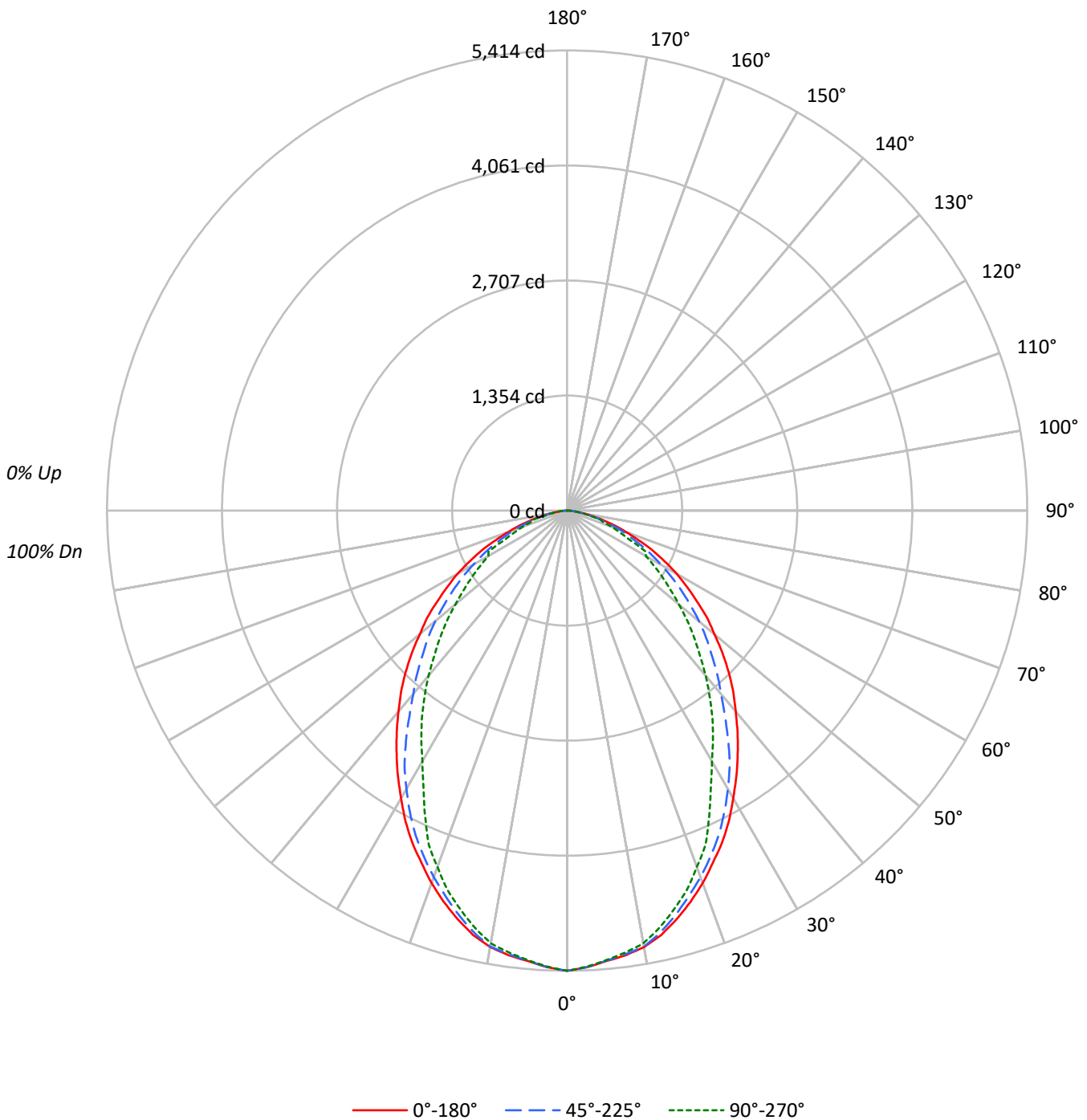
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7285	7285	7285
5°	7186	7177	7169
10°	7124	7115	7064
15°	6931	6862	6766
20°	6677	6569	6390
25°	6402	6263	5873
30°	6068	5874	5290
35°	5747	5428	4894
40°	5420	4947	4453
45°	5109	4574	4026
50°	4730	4245	3590
55°	4376	3847	3216
60°	4009	3436	2880
65°	3527	3009	2551
70°	2906	2635	2167
75°	2310	2018	2115
80°	1552	1455	1358
85°	966	1159	1352

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5109 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	504.0	4.7
10°-20°	1383.2	13.0
20°-30°	1914.9	18.0
30°-40°	2041.9	19.2
40°-50°	1862.8	17.5
50°-60°	1459.3	13.7
60°-70°	951.1	8.9
70°-80°	421.4	4.0
80°-90°	90.5	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°	3802.1	35.8
0°-40°	5843.9	55.0
0°-60°	9166.0	86.2
0°-90°	10629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5414	5414	5414	5414	5414	
5°	5320	5314	5314	5308	5308	505
15°	4976	4976	4926	4876	4857	1399
25°	4313	4288	4219	4068	3956	1980
35°	3499	3474	3305	3054	2979	2187
45°	2685	2629	2404	2203	2116	2068
55°	1865	1809	1640	1446	1371	1673
65°	1108	1045	945	964	801	1092
75°	444	413	388	369	407	476
85°	63	69	75	81	88	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5414.3	5414.3	5414.3	5414.3	5414.3
2.5°	5376.7	5376.7	5376.7	5370.5	5370.5
5°	5320.4	5314.1	5314.1	5307.9	5307.9
7.5°	5276.6	5270.3	5264.0	5257.8	5245.3
10°	5214.0	5214.0	5207.7	5176.4	5170.2
12.5°	5113.8	5107.6	5082.5	5038.7	5026.2
15°	4976.1	4976.1	4926.0	4876.0	4857.2
17.5°	4825.9	4819.6	4757.0	4707.0	4681.9
20°	4663.2	4650.6	4588.0	4506.7	4462.9
22.5°	4481.6	4481.6	4406.5	4300.1	4256.3
25°	4312.6	4287.6	4218.7	4068.5	3955.9
27.5°	4118.6	4081.0	4005.9	3793.1	3661.7
30°	3905.8	3887.0	3780.6	3505.2	3405.0
32.5°	3705.5	3674.2	3561.5	3273.6	3192.2
35°	3498.9	3473.9	3304.9	3054.5	2979.4
37.5°	3292.4	3261.1	3048.3	2848.0	2754.1
40°	3085.8	3048.3	2816.7	2635.2	2535.0
42.5°	2891.8	2841.7	2616.4	2422.3	2309.7
45°	2685.2	2628.9	2403.6	2203.3	2115.6
47.5°	2478.7	2428.6	2222.0	2015.5	1915.3
50°	2259.6	2215.8	2028.0	1821.4	1715.0
52.5°	2078.1	2009.2	1827.7	1621.2	1533.5
55°	1865.3	1808.9	1639.9	1445.9	1370.8
57.5°	1671.2	1614.9	1458.4	1276.9	1214.3
60°	1489.7	1408.3	1276.9	1120.4	1070.3
62.5°	1289.4	1226.8	1114.2	982.7	1045.3
65°	1107.9	1045.3	945.2	963.9	801.2
67.5°	907.6	876.3	788.7	701.0	676.0
70°	738.6	701.0	669.7	575.9	550.8
72.5°	588.4	550.8	507.0	456.9	438.1
75°	444.4	413.1	388.1	369.3	406.9
77.5°	306.7	294.2	275.4	256.6	250.4
80°	200.3	194.0	187.8	181.5	175.3
82.5°	118.9	118.9	118.9	118.9	118.9
85°	62.6	68.9	75.1	81.4	87.6
87.5°	37.6	37.6	43.8	50.1	56.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)