

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: P560270

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560270
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-12-2-LD4-2HI-40-UNV-81-97-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2883.0 lumens
Efficiency: N/A
Efficacy: 66.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

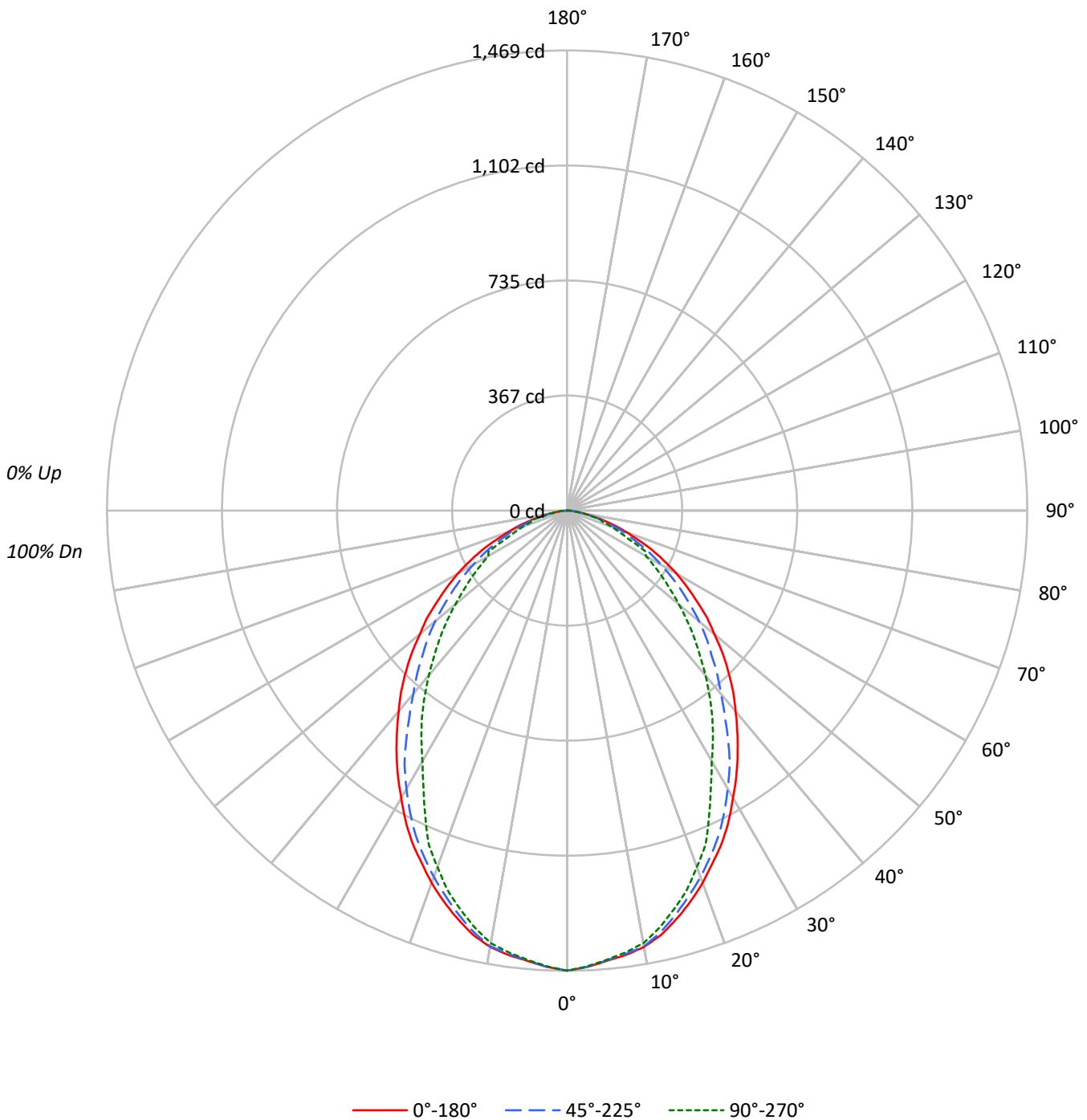
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10																
RCR	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99																
	1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87																
	2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75																
	3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65																
	4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56																
	5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50																
	6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44																
	7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40																
	8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36																
	9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33																
	10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30																	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7904	7904	7904
5°	7796	7787	7778
10°	7729	7719	7664
15°	7520	7444	7341
20°	7244	7128	6933
25°	6947	6795	6372
30°	6584	6372	5740
35°	6235	5889	5309
40°	5880	5368	4831
45°	5543	4962	4367
50°	5132	4606	3895
55°	4747	4174	3489
60°	4350	3728	3125
65°	3827	3265	2767
70°	3152	2859	2351
75°	2506	2190	2296
80°	1683	1578	1472
85°	1050	1260	1470

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5543 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.7	4.7
10°-20°	375.2	13.0
20°-30°	519.4	18.0
30°-40°	553.8	19.2
40°-50°	505.3	17.5
50°-60°	395.8	13.7
60°-70°	258.0	8.9
70°-80°	114.3	4.0
80°-90°	24.6	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°	1031.3	35.8
0°-40°	1585.1	55.0
0°-60°	2486.2	86.2
0°-90°	2883.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2883.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1469	1469	1469	1469	1469	
5°	1443	1441	1441	1440	1440	137
15°	1350	1350	1336	1323	1318	379
25°	1170	1163	1144	1104	1073	537
35°	949	942	896	828	808	593
45°	728	713	652	598	574	561
55°	506	491	445	392	372	454
65°	300	284	256	262	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1468.6	1468.6	1468.6	1468.6	1468.6
2.5°	1458.4	1458.4	1458.4	1456.7	1456.7
5°	1443.1	1441.4	1441.4	1439.7	1439.7
7.5°	1431.2	1429.5	1427.8	1426.1	1422.7
10°	1414.2	1414.2	1412.5	1404.0	1402.3
12.5°	1387.1	1385.4	1378.6	1366.7	1363.3
15°	1349.7	1349.7	1336.1	1322.6	1317.5
17.5°	1309.0	1307.3	1290.3	1276.7	1269.9
20°	1264.8	1261.4	1244.5	1222.4	1210.5
22.5°	1215.6	1215.6	1195.2	1166.4	1154.5
25°	1169.8	1163.0	1144.3	1103.5	1073.0
27.5°	1117.1	1106.9	1086.6	1028.8	993.2
30°	1059.4	1054.3	1025.4	950.7	923.6
32.5°	1005.1	996.6	966.0	887.9	865.9
35°	949.0	942.3	896.4	828.5	808.1
37.5°	893.0	884.5	826.8	772.5	747.0
40°	837.0	826.8	764.0	714.8	687.6
42.5°	784.4	770.8	709.7	657.0	626.5
45°	728.3	713.1	651.9	597.6	573.8
47.5°	672.3	658.7	602.7	546.7	519.5
50°	612.9	601.0	550.1	494.0	465.2
52.5°	563.7	545.0	495.7	439.7	416.0
55°	505.9	490.7	444.8	392.2	371.8
57.5°	453.3	438.0	395.6	346.3	329.4
60°	404.1	382.0	346.3	303.9	290.3
62.5°	349.7	332.8	302.2	266.5	283.5
65°	300.5	283.5	256.4	261.5	217.3
67.5°	246.2	237.7	213.9	190.1	183.4
70°	200.3	190.1	181.7	156.2	149.4
72.5°	159.6	149.4	137.5	123.9	118.8
75°	120.5	112.1	105.3	100.2	110.4
77.5°	83.2	79.8	74.7	69.6	67.9
80°	54.3	52.6	50.9	49.2	47.5
82.5°	32.3	32.3	32.3	32.3	32.3
85°	17.0	18.7	20.4	22.1	23.8
87.5°	10.2	10.2	11.9	13.6	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)