

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: P560192

Luminaire Tested: FSR-12-2-LD4-2HI-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560192
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-35-UNV-81-84-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

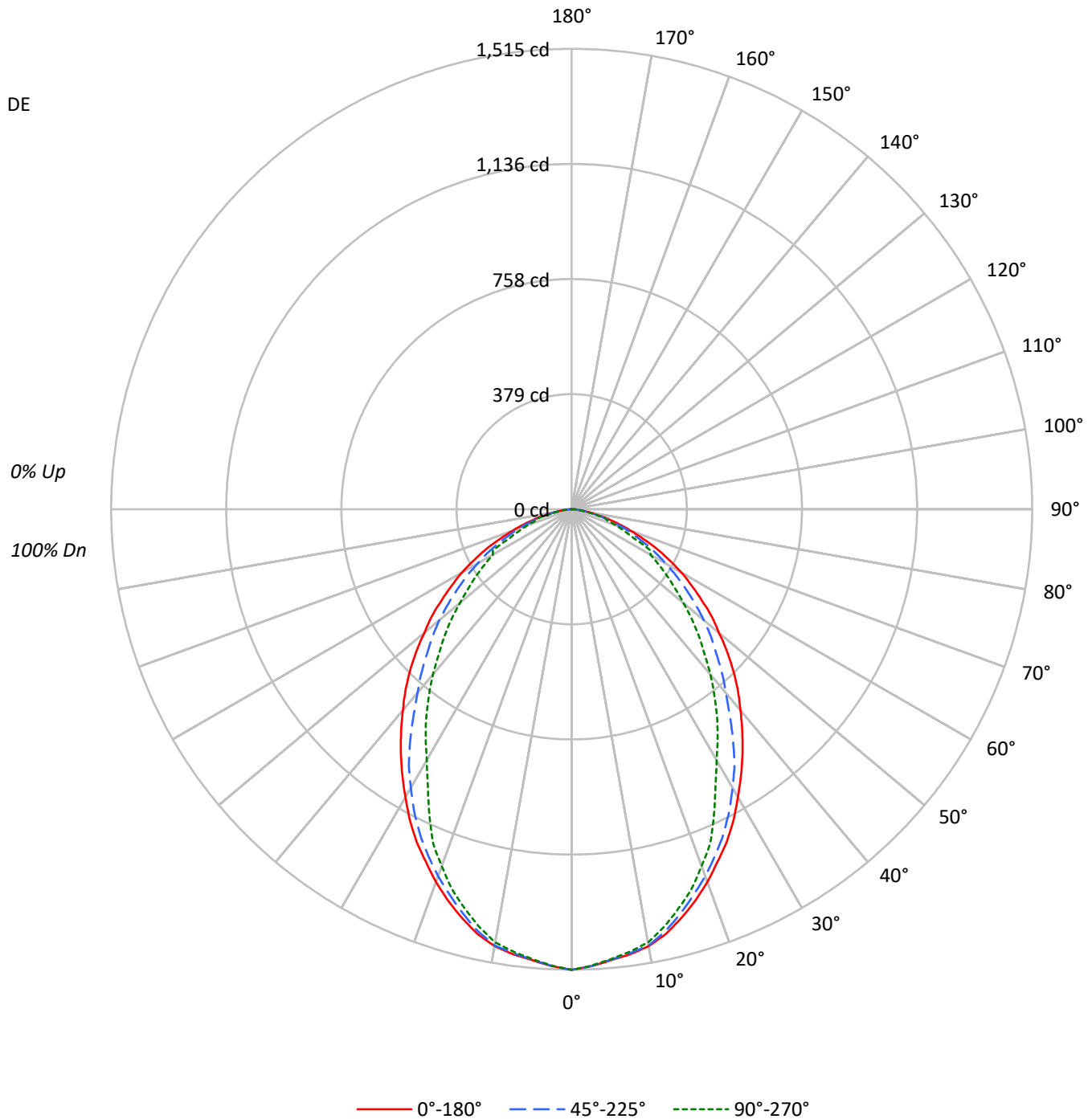
Lumens per Lamp: N/A
Luminaire Lumens: 2975.0 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

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	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°	8156	8156	8156
5°	8045	8036	8026
10°	7976	7966	7908
15°	7760	7682	7575
20°	7475	7355	7154
25°	7168	7012	6575
30°	6794	6576	5923
35°	6434	6077	5479
40°	6068	5539	4985
45°	5721	5120	4507
50°	5295	4752	4019
55°	4899	4307	3600
60°	4489	3847	3225
65°	3949	3368	2855
70°	3253	2950	2426
75°	2587	2258	2368
80°	1739	1630	1522
85°	1081	1297	1513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5721 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.1	4.7
10°-20°	387.1	13.0
20°-30°	536.0	18.0
30°-40°	571.5	19.2
40°-50°	521.4	17.5
50°-60°	408.5	13.7
60°-70°	266.2	8.9
70°-80°	117.9	4.0
80°-90°	25.3	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°	1064.2	35.8
0°-40°	1635.7	55.0
0°-60°	2565.5	86.2
0°-90°	2975.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2975.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1515	1515	1515	1515	1515	
5°	1489	1487	1487	1486	1486	141
15°	1393	1393	1379	1365	1360	392
25°	1207	1200	1181	1139	1107	554
35°	979	972	925	855	834	612
45°	752	736	673	617	592	579
55°	522	506	459	405	384	468
65°	310	293	264	270	224	306
75°	124	116	109	103	114	133
85°	18	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1515.4	1515.4	1515.4	1515.4	1515.4
2.5°	1504.9	1504.9	1504.9	1503.2	1503.2
5°	1489.1	1487.4	1487.4	1485.6	1485.6
7.5°	1476.9	1475.1	1473.4	1471.6	1468.1
10°	1459.4	1459.4	1457.6	1448.9	1447.1
12.5°	1431.3	1429.6	1422.6	1410.3	1406.8
15°	1392.8	1392.8	1378.8	1364.8	1359.5
17.5°	1350.7	1349.0	1331.5	1317.5	1310.4
20°	1305.2	1301.7	1284.2	1261.4	1249.1
22.5°	1254.4	1254.4	1233.4	1203.6	1191.3
25°	1207.1	1200.1	1180.8	1138.8	1107.2
27.5°	1152.8	1142.3	1121.2	1061.7	1024.9
30°	1093.2	1088.0	1058.2	981.1	953.1
32.5°	1037.1	1028.4	996.9	916.3	893.5
35°	979.3	972.3	925.0	854.9	833.9
37.5°	921.5	912.8	853.2	797.1	770.9
40°	863.7	853.2	788.4	737.6	709.5
42.5°	809.4	795.4	732.3	678.0	646.5
45°	751.6	735.8	672.7	616.7	592.2
47.5°	693.8	679.8	621.9	564.1	536.1
50°	632.4	620.2	567.6	509.8	480.0
52.5°	581.6	562.4	511.6	453.8	429.2
55°	522.1	506.3	459.0	404.7	383.7
57.5°	467.8	452.0	408.2	357.4	339.9
60°	417.0	394.2	357.4	313.6	299.6
62.5°	360.9	343.4	311.8	275.1	292.6
65°	310.1	292.6	264.5	269.8	224.2
67.5°	254.0	245.3	220.7	196.2	189.2
70°	206.7	196.2	187.5	161.2	154.2
72.5°	164.7	154.2	141.9	127.9	122.6
75°	124.4	115.6	108.6	103.4	113.9
77.5°	85.8	82.3	77.1	71.8	70.1
80°	56.1	54.3	52.6	50.8	49.1
82.5°	33.3	33.3	33.3	33.3	33.3
85°	17.5	19.3	21.0	22.8	24.5
87.5°	10.5	10.5	12.3	14.0	15.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)