

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: BALLABS TEST NO. 11535.0

Luminaire Tested: **FUS12LP-X-228-120-80/86-EB81-9FNL ONLY NIGHTLIGHT-ON**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: BALLABS TEST NO. 11535.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FUS12LP-X-228-120-80/86-EB81-9FNL ONLY NIGHTLIGHT-ON
Description: 2/28W T5 4'SURFACE LUMINAIRE w/9W PL CF OFFSET NIGHTLIGHT
Light Source: -
F9TT/41
Ballast/Driver: -

Summary

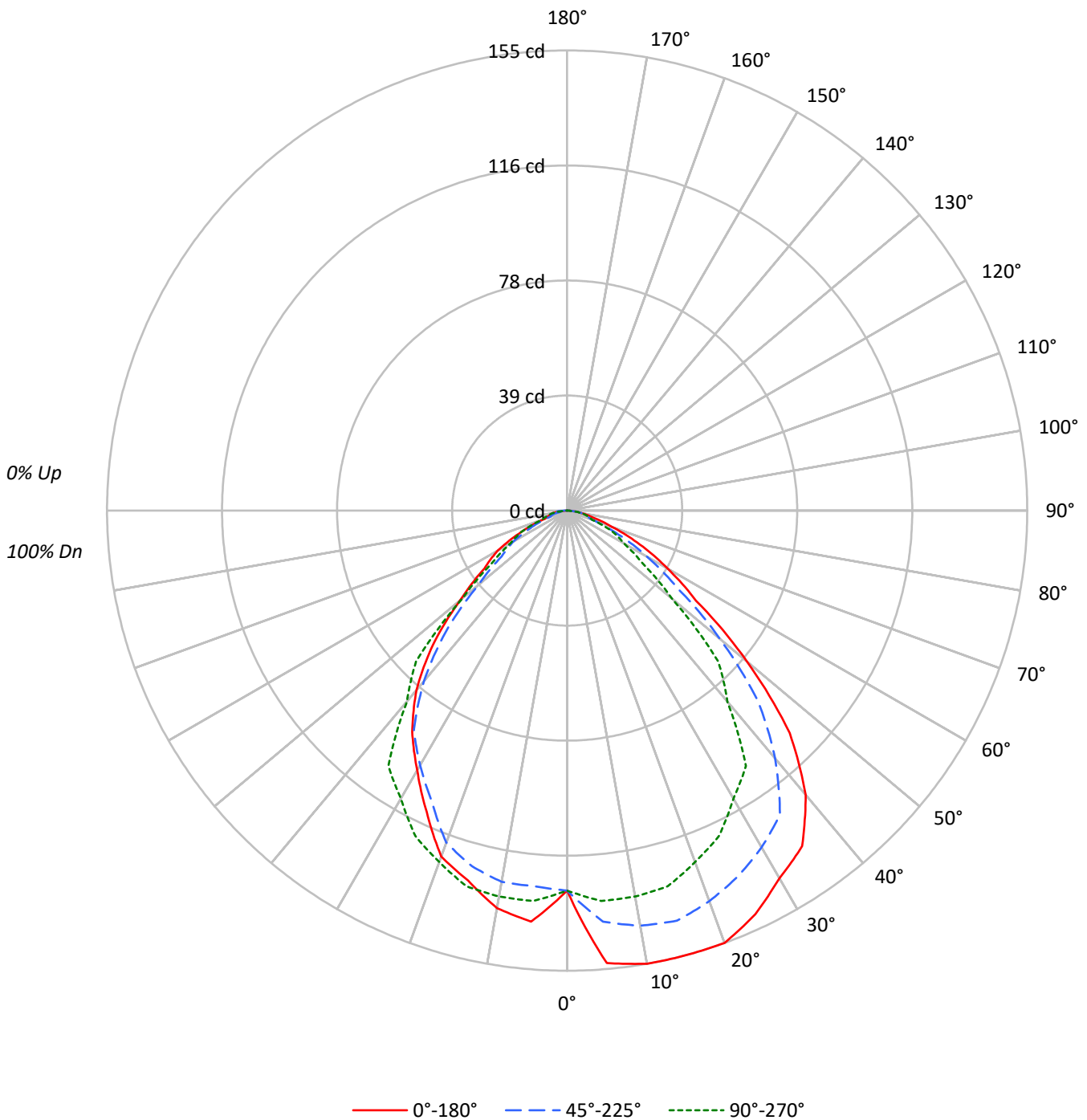
Lumens per Lamp: 600 (1 lamp)
Luminaire Lumens: 291.3 lumens
Efficiency: 48.5%
Efficacy: 32.4 lumens/watt
Spacing Criteria (0/90/45): 1.38 / 1.29 / 1.32
Luminous Opening: Rectangular (W 3.92' x L: 0.44' x H: 0')
CIE Type: Direct

Input Watts (W): 9
Input Voltage (V): NR
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: 25 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	58	58	58	58	56	56	56	56	54	54	54	52	52	52	50	50	50	49
1	54	52	50	49	53	51	49	48	49	48	46	47	46	45	45	44	44	43
2	50	46	44	41	49	46	43	41	44	42	40	42	41	39	41	40	38	37
3	46	42	38	36	45	41	38	35	40	37	35	38	36	34	37	35	34	33
4	43	38	34	31	42	37	33	31	36	33	30	35	32	30	34	31	30	29
5	40	34	30	27	39	33	30	27	33	29	27	32	29	27	31	28	26	25
6	37	31	27	24	36	30	27	24	30	26	24	29	26	24	28	26	24	23
7	34	28	24	22	33	28	24	22	27	24	22	27	24	21	26	23	21	20
8	32	26	22	20	31	26	22	20	25	22	19	24	21	19	24	21	19	18
9	30	24	20	18	29	24	20	18	23	20	18	23	20	18	22	19	17	17
10	28	22	19	16	28	22	19	16	21	18	16	21	18	16	21	18	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	794	794	794
5°	953	822	866
10°	976	831	857
15°	995	841	828
20°	1023	832	819
25°	1027	828	767
30°	1024	802	723
35°	1045	795	689
40°	1012	680	640
45°	930	632	561
50°	762	444	454
55°	573	335	368
60°	484	273	335
65°	396	250	250
70°	290	163	145
75°	216	168	144
80°	179	179	179
85°	142	71	71



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	12.9	4.4	2.2	0°	128	128	128	128	128	
10°-20°	37.9	13.0	6.3	5°	153	139	132	127	139	14
20°-30°	56.8	19.5	9.5	15°	155	143	131	124	129	44
30°-40°	66.1	22.7	11.0	25°	150	136	121	108	112	69
40°-50°	57.1	19.6	9.5	35°	138	125	105	90	91	85
50°-60°	34.1	11.7	5.7	45°	106	91	72	58	64	80
60°-70°	17.4	6.0	2.9	55°	53	45	31	27	34	50
70°-80°	6.7	2.3	1.1	65°	27	19	17	13	17	27
80°-90°	2.3	0.8	0.4	75°	9	6	7	5	6	10
90°-100°	0.0	0.0	0.0	85°	2	2	1	4	1	2
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	107.6	36.9	17.9							
0°-40°	173.7	59.6	29.0							
0°-60°	264.9	90.9	44.1							
0°-90°	291.3	100.0	48.5							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	291.3	100.0	48.5							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	128	128	128	128	128	128	128	128	128
5°	153	145	139	139	132	128	127	134	139
10°	155	146	142	139	132	127	127	131	136
15°	155	147	143	138	131	124	124	127	129
20°	155	146	140	136	126	120	119	120	124
25°	150	140	136	129	121	113	108	108	112
30°	143	135	131	123	112	99	99	97	101
35°	138	132	125	114	105	90	90	91	91
40°	125	121	109	98	84	73	75	76	79
45°	106	102	91	79	72	57	58	61	64
50°	79	76	67	54	46	39	39	42	47
55°	53	51	45	35	31	28	27	30	34
60°	39	35	31	28	22	21	21	23	27
65°	27	21	19	19	17	15	13	15	17
70°	16	9	9	10	9	8	6	6	8
75°	9	6	6	8	7	5	5	5	6
80°	5	5	5	5	5	5	2	2	5
85°	2	2	2	1	1	1	4	4	1
90°	0	0	0	0	0	0	0	0	0

(END OF REPORT)