

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: P188245

Luminaire Tested: **FUSL-N12-2-LD4-2STD-40-UNV-80/86**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P188245
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27113)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FUSL-N12-2-LD4-2STD-40-UNV-80/86
Description:
Light Source: (84) NICHIA ELM 4000K LED
2UT217042A8404A
Ballast/Driver: ELECTRONIC DRIVER

Summary

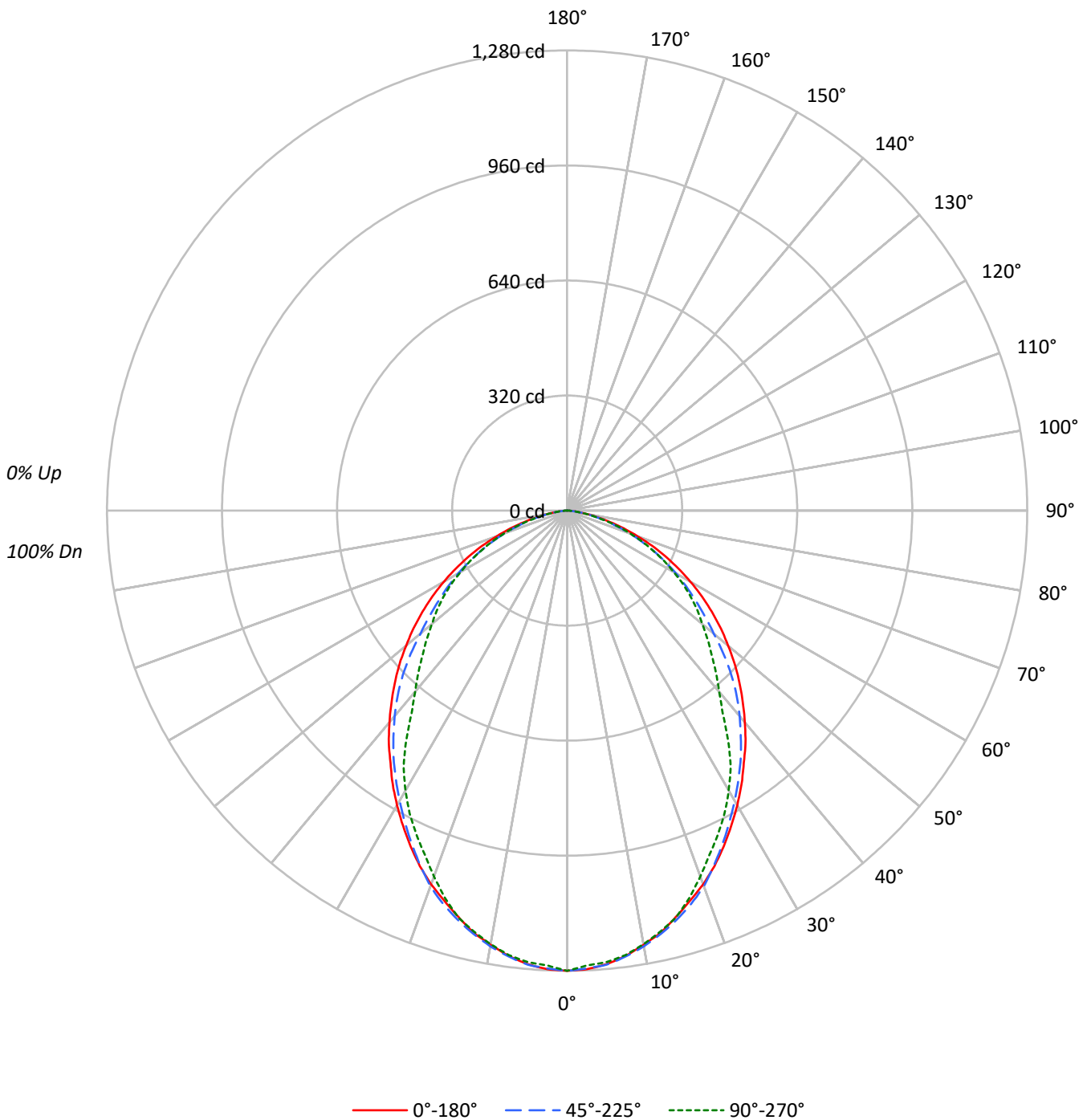
Lumens per Lamp: N/A
Luminaire Lumens: 2744.1 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.07 / 1.21
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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

TEST NUMBER: P188245

CATALOG NUMBER: FUSL-N12-2-LD4-2STD-40-UNV-80/86

Luminous Intensity Polar Plot





TEST NUMBER: P188245

CATALOG NUMBER: FUSL-N12-2-LD4-2STD-40-UNV-80/86

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	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	75	69	90	81	74	69	78	72	67	76	71	66	73	69	65	63
4	85	74	66	60	83	73	65	59	70	64	58	68	62	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	55	51	60	54	50	48
6	73	60	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45	43
7	68	55	47	41	66	54	46	41	53	46	40	51	45	40	50	44	40	38
8	63	51	42	37	62	50	42	37	49	42	36	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	36	30	55	43	35	30	42	35	30	41	35	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6891	6891	6891
5°	6842	6850	6811
10°	6702	6725	6693
15°	6519	6565	6524
20°	6337	6369	6201
25°	6119	6076	5896
30°	5881	5789	5587
35°	5627	5531	5129
40°	5403	5243	4618
45°	5158	4915	4325
50°	4895	4458	4109
55°	4612	4091	3946
60°	4271	3762	3682
65°	3837	3368	3358
70°	3276	2891	2943
75°	2581	2292	2344
80°	1745	1646	1593
85°	908	1007	1007



TEST NUMBER: P188245

CATALOG NUMBER: FUSL-N12-2-LD4-2STD-40-UNV-80/86

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	4.4
10°-20°	330.4	12.0
20°-30°	468.6	17.1
30°-40°	518.3	18.9
40°-50°	486.0	17.7
50°-60°	400.9	14.6
60°-70°	273.4	10.0
70°-80°	124.8	4.5
80°-90°	22.1	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°	918.6	33.5
0°-40°	1436.9	52.4
0°-60°	2323.8	84.7
0°-90°	2744.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2744.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1280	1280	1280	1280	1280	
5°	1266	1267	1268	1264	1261	120
15°	1170	1176	1178	1177	1171	330
25°	1030	1036	1023	1002	993	474
35°	856	853	842	808	781	537
45°	678	669	646	582	568	523
55°	492	481	436	420	420	439
65°	301	293	264	263	264	298
75°	124	121	110	112	113	134
85°	15	16	16	16	16	22
90°	0	0	0	0	0	



TEST NUMBER: P188245

CATALOG NUMBER: FUSL-N12-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1280.3	1280.3	1280.3	1280.3	1280.3
2.5°	1277.0	1277.0	1274.5	1270.5	1266.4
5°	1266.4	1267.2	1268.0	1263.9	1260.7
7.5°	1249.2	1251.7	1250.9	1250.1	1246.8
10°	1226.4	1231.3	1230.5	1226.4	1224.7
12.5°	1202.7	1207.6	1206.0	1202.7	1199.4
15°	1170.0	1175.8	1178.2	1176.6	1170.9
17.5°	1137.4	1146.4	1147.2	1141.5	1130.0
20°	1106.4	1111.3	1112.1	1093.3	1082.7
22.5°	1070.4	1075.3	1068.0	1048.4	1035.3
25°	1030.4	1036.1	1023.1	1001.8	992.9
27.5°	988.8	993.7	977.3	960.2	948.8
30°	946.3	947.1	931.6	914.5	899.0
32.5°	903.0	900.6	886.7	863.9	846.7
35°	856.5	853.2	841.8	808.3	780.6
37.5°	814.9	806.7	793.6	746.3	710.4
40°	769.1	761.0	746.3	678.5	657.3
42.5°	723.4	714.4	698.1	627.9	613.2
45°	677.7	668.7	645.8	582.2	568.3
47.5°	632.8	622.2	590.3	538.9	529.9
50°	584.6	575.6	532.4	496.4	490.7
52.5°	538.9	528.3	482.5	458.1	457.2
55°	491.5	480.9	436.0	419.7	420.5
57.5°	444.2	433.6	392.7	380.5	383.8
60°	396.8	387.0	349.5	342.9	342.1
62.5°	348.6	339.7	306.2	302.9	304.6
65°	301.3	293.1	264.5	262.9	263.7
67.5°	254.7	248.2	223.7	223.7	227.0
70°	208.2	203.3	183.7	185.3	187.0
72.5°	164.9	160.8	145.3	147.8	150.2
75°	124.1	120.8	110.2	111.9	112.7
77.5°	88.2	85.7	80.0	80.8	79.2
80°	56.3	56.3	53.1	52.3	51.4
82.5°	32.7	31.8	31.0	31.0	30.2
85°	14.7	16.3	16.3	16.3	16.3
87.5°	4.9	6.5	7.3	7.3	7.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)