

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: P392630

Luminaire Tested: **MWL-4-00-33-UNV-L940-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392630  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-00-33-UNV-L940-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

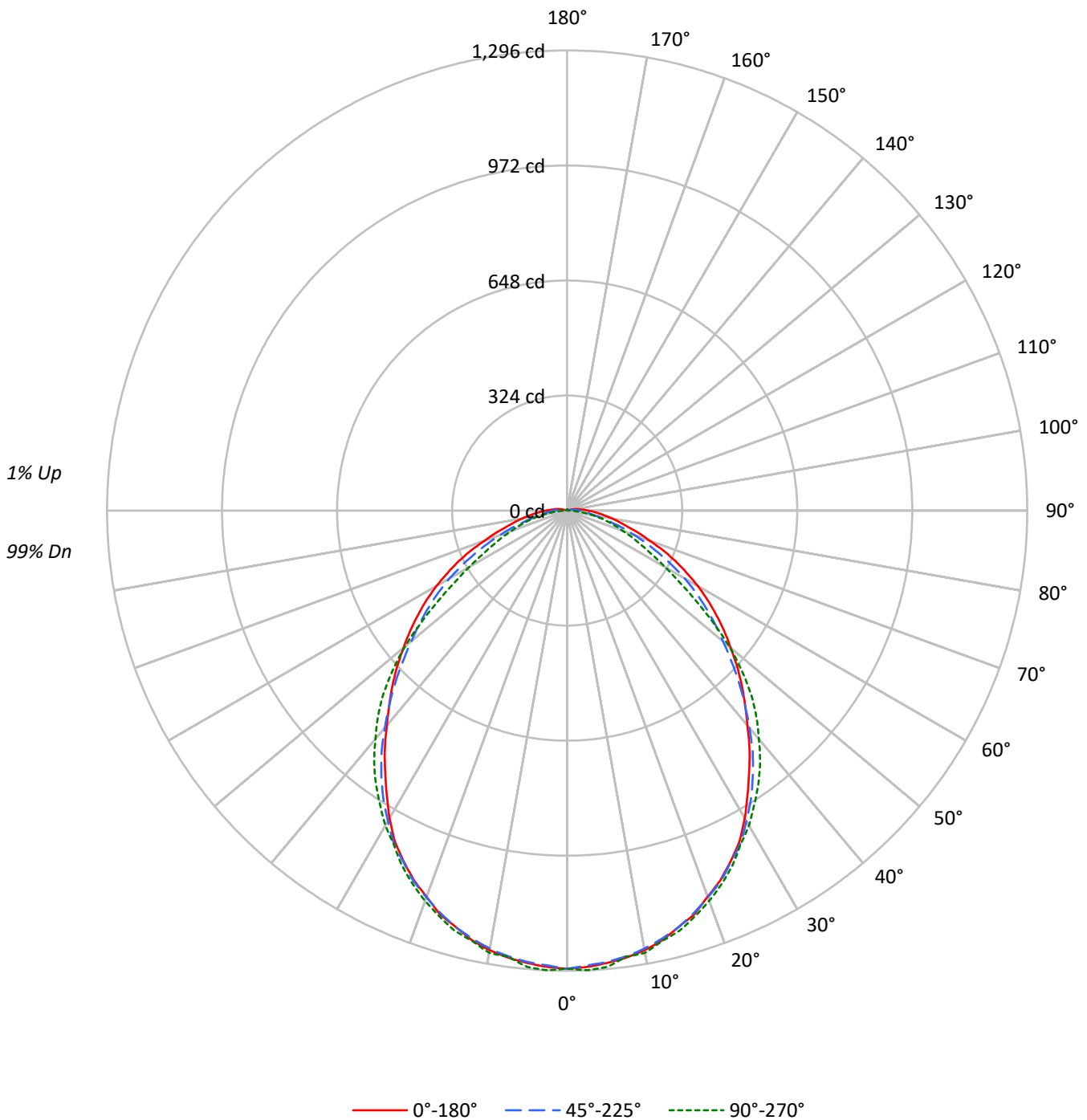
Lumens per Lamp: N/A  
Luminaire Lumens: 3039.2 lumens  
Efficiency: N/A  
Efficacy: 89.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Direct

Input Watts (W): 34.037  
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: P392630  
CATALOG NUMBER: MWL-4-00-33-UNV-L940-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P392630

CATALOG NUMBER: MWL-4-00-33-UNV-L940-EDD

**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	110	110	110	105	105	105	101	101	101	99
1	109	105	101	97	106	102	99	95	98	95	92	94	91	89	90	88	86	84
2	100	92	86	80	97	90	84	79	87	82	77	83	79	75	80	77	74	71
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	71	67	63	61
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	64	59	55	53
5	78	66	57	51	76	65	57	51	62	55	50	60	54	49	58	53	49	47
6	72	60	51	45	70	59	50	45	57	49	44	55	48	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	38	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	30	54	42	34	29	41	34	29	40	33	29	39	33	29	27

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8333	8333	8333
5°	8219	7746	7691
10°	8097	7222	7051
15°	7895	6716	6458
20°	7663	6203	5895
25°	7406	5703	5358
30°	7038	5190	4842
35°	6569	4649	4356
40°	6125	4070	3851
45°	5751	3510	3350
50°	5375	2983	2740
55°	5028	2537	2050
60°	4646	2101	1512
65°	4200	1635	1125
70°	3625	1209	840
75°	3177	831	620
80°	3004	537	396
85°	3021	408	179



TEST NUMBER: P392630

CATALOG NUMBER: MWL-4-00-33-UNV-L940-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.5	4.0
10°-20°	342.9	11.3
20°-30°	503.6	16.6
30°-40°	571.8	18.8
40°-50°	538.6	17.7
50°-60°	429.5	14.1
60°-70°	283.1	9.3
70°-80°	146.8	4.8
80°-90°	62.4	2.1
90°-100°	23.9	0.8
100°-110°	5.2	0.2
110°-120°	1.9	0.1
120°-130°	2.1	0.1
130°-140°	2.0	0.1
140°-150°	1.6	0.1
150°-160°	1.2	0.0
160°-170°	0.8	0.0
170°-180°	0.2	0.0
0°-30°	968.1	31.9
0°-40°	1539.9	50.7
0°-60°	2507.9	82.5
0°-90°	3000.2	98.7
90°-120°	31.1	1.0
90°-150°	36.8	1.2
90°-180°	39.0	1.3
0°-180°	3039.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1279	1279	1276	1285	1290	121
15°	1214	1218	1215	1220	1225	342
25°	1090	1090	1092	1103	1102	501
35°	894	897	912	938	939	559
45°	695	683	684	714	734	537
55°	513	499	477	463	442	459
65°	336	326	286	240	231	332
75°	177	155	130	109	118	192
85°	89	73	55	36	30	81
90°	59	52	37	20	1	33
95°	38	38	23	4	1	29
105°	11	8	2	1	1	13
115°	3	2	2	2	2	3
125°	3	3	3	2	2	2
135°	3	3	3	3	2	2
145°	3	3	3	3	2	2
155°	3	3	3	3	3	1
165°	3	3	3	3	3	1
175°	2	3	3	3	3	0
180°	3	3	3	3	3	



TEST NUMBER: P392630

CATALOG NUMBER: MWL-4-00-33-UNV-L940-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1290.2	1290.2	1290.2	1290.2	1290.2
2.5°	1286.6	1283.8	1282.0	1288.4	1295.7
5°	1279.3	1279.3	1276.5	1284.7	1290.2
7.5°	1270.2	1272.0	1266.5	1273.8	1267.4
10°	1257.4	1256.5	1252.9	1261.1	1264.7
12.5°	1239.2	1234.6	1234.6	1240.1	1241.0
15°	1213.7	1218.2	1214.6	1220.1	1224.6
17.5°	1191.8	1192.7	1188.2	1192.7	1198.2
20°	1157.2	1159.9	1159.0	1169.0	1169.9
22.5°	1127.1	1128.9	1129.9	1130.8	1138.1
25°	1089.8	1089.8	1091.6	1103.4	1102.5
27.5°	1050.6	1048.8	1057.0	1064.3	1058.8
30°	1000.5	1002.3	1009.6	1026.9	1024.2
32.5°	945.8	953.1	963.1	985.9	981.3
35°	893.9	896.6	912.1	938.5	939.4
37.5°	843.8	839.2	858.3	886.6	893.0
40°	790.0	790.9	799.1	833.7	840.1
42.5°	741.7	732.6	740.8	775.4	789.1
45°	695.3	683.4	684.3	714.4	733.5
47.5°	648.8	634.2	626.9	651.5	667.0
50°	601.4	587.8	573.2	588.7	597.8
52.5°	557.7	542.2	524.9	526.7	518.5
55°	513.0	499.4	476.6	462.9	442.0
57.5°	469.3	459.3	430.0	401.8	373.6
60°	424.6	416.4	382.7	341.7	319.8
62.5°	379.0	372.6	333.5	286.1	269.7
65°	336.2	326.2	286.1	240.5	231.4
67.5°	291.6	279.7	241.4	200.4	198.6
70°	246.9	235.1	201.4	165.8	166.7
72.5°	212.3	192.2	164.9	136.7	141.2
75°	176.8	154.9	130.3	109.3	117.5
77.5°	151.2	126.6	101.1	87.5	92.9
80°	128.5	103.0	78.4	65.6	71.1
82.5°	108.4	86.6	64.7	46.5	49.2
85°	89.3	72.9	54.7	35.5	30.1
87.5°	72.9	61.0	44.6	27.3	8.2
90°	59.2	51.9	37.4	20.0	0.9
92.5°	48.3	44.6	29.2	11.8	0.9
95°	38.3	38.3	22.8	3.6	0.9
97.5°	31.9	31.0	15.5	0.9	0.9
100°	24.6	22.8	8.2	0.9	0.9
102.5°	17.3	14.6	2.7	0.9	0.9
105°	10.9	8.2	1.8	0.9	0.9
107.5°	5.5	2.7	1.8	0.9	0.9
110°	2.7	1.8	1.8	1.8	0.9



TEST NUMBER: P392630

CATALOG NUMBER: MWL-4-00-33-UNV-L940-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	1.8	1.8	1.8	0.9
115°	2.7	1.8	1.8	1.8	1.8
117.5°	2.7	2.7	1.8	1.8	1.8
120°	2.7	2.7	1.8	1.8	1.8
122.5°	2.7	2.7	2.7	1.8	1.8
125°	2.7	2.7	2.7	1.8	1.8
127.5°	2.7	2.7	2.7	1.8	1.8
130°	2.7	2.7	2.7	1.8	1.8
132.5°	2.7	2.7	2.7	2.7	1.8
135°	2.7	2.7	2.7	2.7	1.8
137.5°	2.7	2.7	2.7	2.7	1.8
140°	2.7	2.7	2.7	2.7	1.8
142.5°	2.7	2.7	2.7	2.7	1.8
145°	2.7	2.7	2.7	2.7	1.8
147.5°	2.7	2.7	2.7	2.7	1.8
150°	2.7	2.7	2.7	2.7	1.8
152.5°	2.7	2.7	2.7	2.7	1.8
155°	2.7	2.7	2.7	2.7	2.7
157.5°	2.7	2.7	2.7	2.7	2.7
160°	2.7	2.7	2.7	2.7	2.7
162.5°	2.7	2.7	2.7	2.7	2.7
165°	2.7	2.7	2.7	2.7	2.7
167.5°	2.7	2.7	2.7	2.7	2.7
170°	1.8	1.8	2.7	2.7	2.7
172.5°	1.8	2.7	2.7	2.7	2.7
175°	1.8	2.7	2.7	2.7	2.7
177.5°	1.8	2.7	2.7	2.7	2.7
180°	2.7	2.7	2.7	2.7	2.7

(END OF REPORT)