

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: P313177

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP125-W2A-U-4000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P313177
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125"
POLYCARB SHEET
Light Source: (168) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2949.0 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

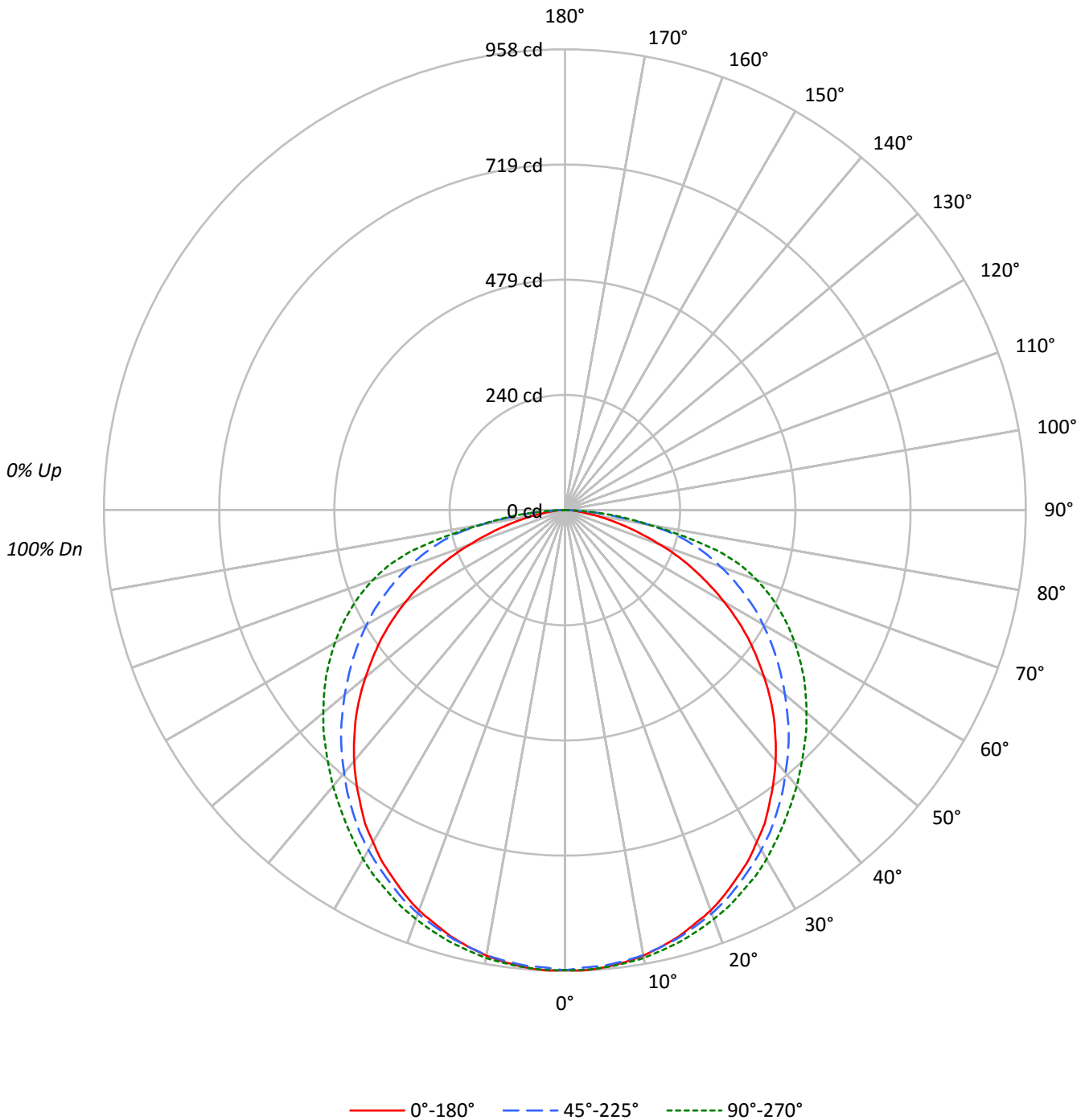
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1287	1287	1287
5°	1289	1284	1289
10°	1285	1284	1292
15°	1278	1281	1293
20°	1269	1278	1296
25°	1254	1272	1298
30°	1239	1268	1302
35°	1219	1261	1304
40°	1197	1253	1316
45°	1170	1252	1337
50°	1132	1251	1372
55°	1092	1260	1422
60°	1030	1279	1485
65°	951	1309	1568
70°	830	1355	1671
75°	674	1425	1726
80°	497	1396	1396
85°	381	1030	1162



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.6	3.1
10°-20°	260.3	8.8
20°-30°	396.3	13.4
30°-40°	481.1	16.3
40°-50°	508.3	17.2
50°-60°	479.7	16.3
60°-70°	398.8	13.5
70°-80°	262.4	8.9
80°-90°	71.5	2.4
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°	747.2	25.3
0°-40°	1228.3	41.7
0°-60°	2216.3	75.2
0°-90°	2949.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2949.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	957	957	957	957	957	
5°	954	954	951	954	954	91
15°	917	918	920	928	928	259
25°	844	849	857	872	874	390
35°	742	751	768	788	794	464
45°	615	627	658	690	702	473
55°	465	485	537	588	606	415
65°	299	333	411	472	493	295
75°	130	189	274	325	332	140
85°	25	54	67	74	75	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	956.8	956.8	956.8	956.8	956.8
2.5°	958.0	956.8	951.9	956.8	956.8
5°	954.3	954.3	950.6	954.3	954.3
7.5°	948.2	948.2	945.7	950.6	950.6
10°	940.8	940.8	939.5	945.7	945.7
12.5°	929.6	930.9	929.6	937.1	937.1
15°	917.3	918.5	919.8	928.4	928.4
17.5°	901.2	903.7	906.2	916.1	917.3
20°	886.4	887.7	892.6	903.7	905.0
22.5°	866.7	870.4	876.6	887.7	891.4
25°	844.5	849.4	856.8	871.6	874.1
27.5°	823.5	827.2	837.1	853.1	858.0
30°	797.5	803.7	816.1	832.1	838.3
32.5°	772.9	779.0	793.8	811.1	816.1
35°	742.0	750.6	767.9	787.7	793.8
37.5°	712.4	721.0	742.0	764.2	771.6
40°	681.5	691.4	713.6	739.5	749.4
42.5°	648.2	661.7	686.4	714.8	725.9
45°	614.8	627.2	658.0	690.1	702.5
47.5°	579.0	593.8	627.2	665.4	680.3
50°	540.7	559.3	597.5	639.5	655.6
52.5°	502.5	523.5	566.7	613.6	630.9
55°	465.4	485.2	537.0	587.7	606.2
57.5°	424.7	449.4	506.2	560.5	579.0
60°	382.7	409.9	475.3	532.1	551.9
62.5°	340.7	371.6	445.7	502.5	523.5
65°	298.8	333.3	411.1	471.6	492.6
67.5°	258.0	296.3	379.0	439.5	460.5
70°	211.1	259.3	344.4	403.7	424.7
72.5°	167.9	223.5	311.1	366.7	385.2
75°	129.6	188.9	274.1	324.7	332.1
77.5°	95.1	154.3	235.8	253.1	254.3
80°	64.2	123.5	180.2	177.8	180.2
82.5°	42.0	92.6	113.6	127.2	128.4
85°	24.7	54.3	66.7	74.1	75.3
87.5°	12.3	18.5	23.5	24.7	27.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)