

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: P313178

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP125-W2A-U-4500K**

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: P313178
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB SHEET
Light Source: (168) 4500K 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: 2978.0 lumens
Efficiency: N/A
Efficacy: 86.8 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

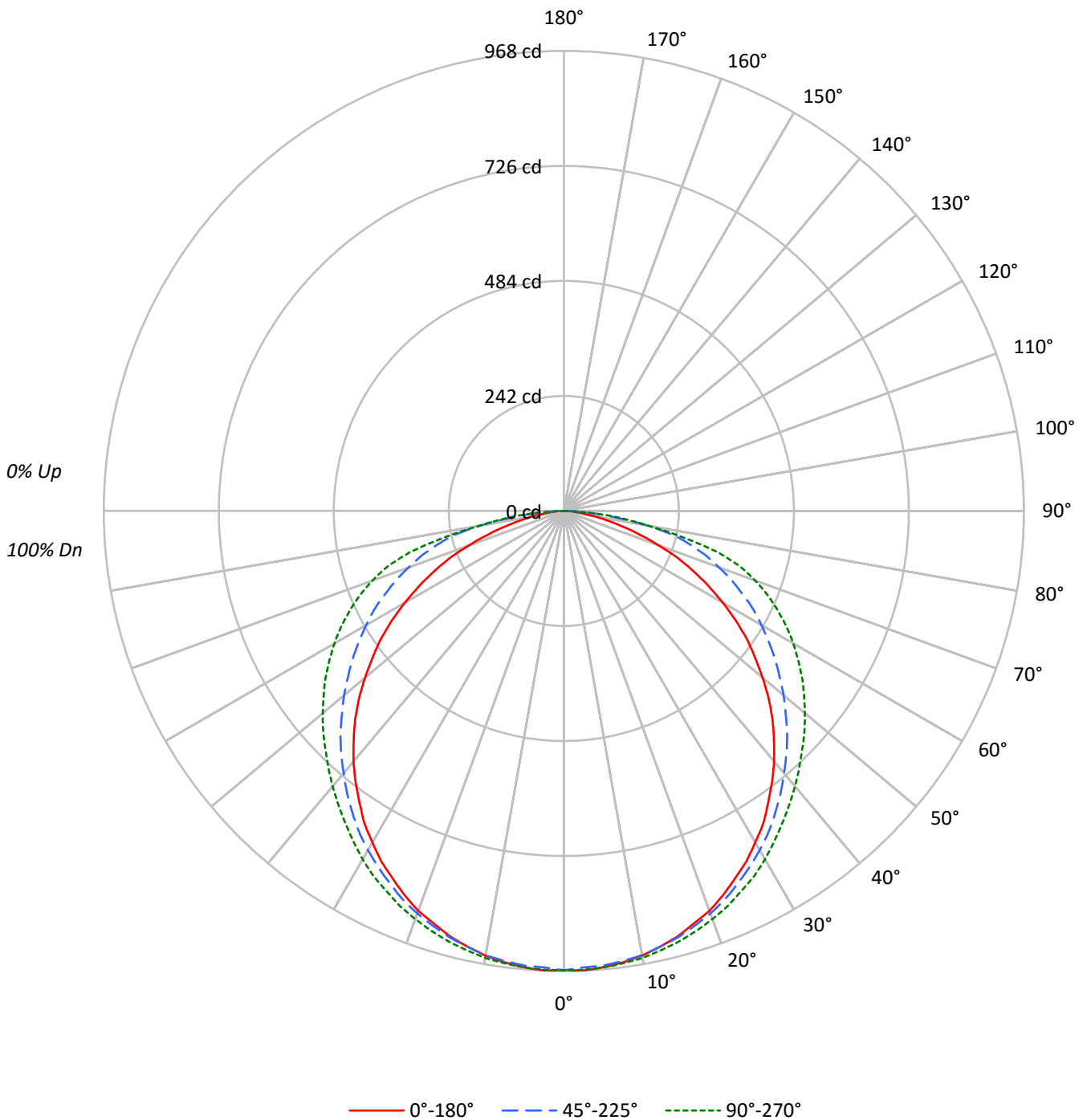
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1300	1300	1300
5°	1302	1297	1302
10°	1298	1296	1305
15°	1290	1294	1306
20°	1282	1291	1309
25°	1266	1284	1310
30°	1251	1280	1315
35°	1231	1274	1317
40°	1209	1266	1329
45°	1181	1264	1350
50°	1143	1263	1386
55°	1103	1272	1436
60°	1040	1292	1500
65°	961	1322	1584
70°	839	1368	1687
75°	680	1439	1744
80°	502	1410	1410
85°	384	1039	1175



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	3.1
10°-20°	262.8	8.8
20°-30°	400.1	13.4
30°-40°	485.9	16.3
40°-50°	513.3	17.2
50°-60°	484.4	16.3
60°-70°	402.7	13.5
70°-80°	265.0	8.9
80°-90°	72.2	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°	754.5	25.3
0°-40°	1240.4	41.7
0°-60°	2238.1	75.2
0°-90°	2978.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2978.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	966	966	966	966	966	
5°	964	964	960	964	964	92
15°	926	928	929	938	938	261
25°	853	858	865	880	883	393
35°	749	758	776	795	802	469
45°	621	633	664	697	709	478
55°	470	490	542	593	612	419
65°	302	337	415	476	497	298
75°	131	191	277	328	335	141
85°	25	55	67	75	76	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	966.2	966.2	966.2	966.2	966.2
2.5°	967.5	966.2	961.2	966.2	966.2
5°	963.7	963.7	960.0	963.7	963.7
7.5°	957.5	957.5	955.0	960.0	960.0
10°	950.0	950.0	948.8	955.0	955.0
12.5°	938.8	940.0	938.8	946.3	946.3
15°	926.3	927.6	928.8	937.5	937.5
17.5°	910.1	912.6	915.1	925.1	926.3
20°	895.2	896.4	901.4	912.6	913.9
22.5°	875.2	878.9	885.2	896.4	900.1
25°	852.8	857.7	865.2	880.2	882.7
27.5°	831.6	835.3	845.3	861.5	866.5
30°	805.4	811.6	824.1	840.3	846.5
32.5°	780.5	786.7	801.6	819.1	824.1
35°	749.3	758.0	775.5	795.4	801.6
37.5°	719.4	728.1	749.3	771.7	779.2
40°	688.2	698.2	720.6	746.8	756.8
42.5°	654.5	668.2	693.2	721.9	733.1
45°	620.9	633.3	664.5	696.9	709.4
47.5°	584.7	599.7	633.3	672.0	686.9
50°	546.1	564.8	603.4	645.8	662.0
52.5°	507.4	528.6	572.2	619.6	637.1
55°	470.0	490.0	542.3	593.4	612.1
57.5°	428.9	453.8	511.2	566.0	584.7
60°	386.5	413.9	480.0	537.3	557.3
62.5°	344.1	375.3	450.1	507.4	528.6
65°	301.7	336.6	415.2	476.3	497.4
67.5°	260.6	299.2	382.7	443.8	465.0
70°	213.2	261.8	347.8	407.7	428.9
72.5°	169.6	225.7	314.2	370.3	389.0
75°	130.9	190.7	276.8	327.9	335.4
77.5°	96.0	155.8	238.1	255.6	256.8
80°	64.8	124.7	182.0	179.5	182.0
82.5°	42.4	93.5	114.7	128.4	129.7
85°	24.9	54.9	67.3	74.8	76.1
87.5°	12.5	18.7	23.7	24.9	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)