

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: P309996

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3000K**

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: P309996
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L82765-RDP-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 2364.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

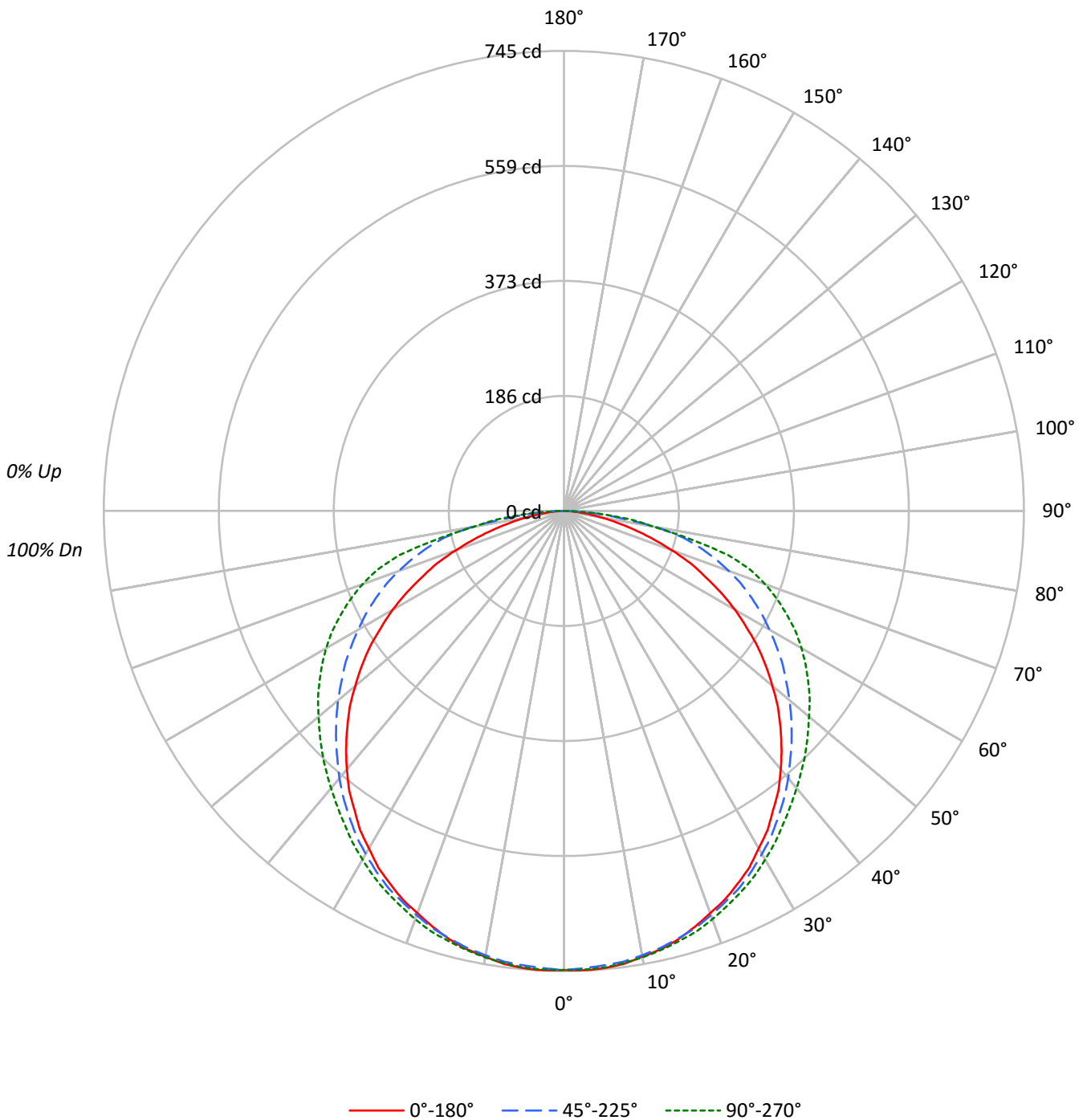
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1000	1000	1000
5°	1004	998	1002
10°	1001	998	1003
15°	1000	998	1004
20°	992	997	1007
25°	989	999	1010
30°	980	997	1013
35°	971	994	1017
40°	960	993	1030
45°	944	993	1053
50°	923	999	1085
55°	899	1015	1133
60°	861	1035	1196
65°	806	1071	1269
70°	733	1121	1365
75°	622	1183	1426
80°	490	1190	1154
85°	363	905	1014



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.5	3.0
10°-20°	203.0	8.6
20°-30°	310.4	13.1
30°-40°	379.4	16.0
40°-50°	404.4	17.1
50°-60°	386.6	16.4
60°-70°	327.5	13.9
70°-80°	220.1	9.3
80°-90°	62.1	2.6
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°	583.8	24.7
0°-40°	963.2	40.7
0°-60°	1754.3	74.2
0°-90°	2364.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2364.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	743	743	743	743	743	
5°	743	742	739	742	742	71
15°	718	718	716	722	721	202
25°	666	668	673	679	680	307
35°	591	596	605	617	619	370
45°	496	504	522	544	554	383
55°	383	398	433	467	483	341
65°	253	279	336	381	399	251
75°	120	163	228	266	274	128
85°	24	48	59	63	66	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	743.4	743.4	743.4	743.4	743.4
2.5°	744.6	744.6	741.1	743.4	743.4
5°	743.4	742.2	738.7	742.2	742.2
7.5°	739.9	738.7	736.4	739.9	738.7
10°	732.9	732.9	730.5	734.0	734.0
12.5°	727.0	725.8	724.6	729.3	728.2
15°	717.6	717.6	716.4	722.3	721.1
17.5°	705.9	707.1	708.2	712.9	714.1
20°	693.0	695.3	696.5	703.5	703.5
22.5°	681.3	682.4	684.8	691.8	691.8
25°	666.0	668.4	673.1	678.9	680.1
27.5°	650.8	651.9	657.8	666.0	667.2
30°	630.8	634.4	641.4	650.8	651.9
32.5°	613.3	616.8	625.0	634.4	636.7
35°	591.0	595.7	605.0	616.8	619.1
37.5°	571.0	574.6	586.3	599.2	602.7
40°	546.4	553.5	565.2	580.4	586.3
42.5°	521.8	528.8	542.9	562.8	569.9
45°	496.0	504.2	521.8	544.1	553.5
47.5°	470.2	479.6	499.5	525.3	535.9
50°	440.9	452.6	477.2	506.6	518.3
52.5°	412.7	426.8	453.8	486.6	501.9
55°	383.4	397.5	432.7	466.7	483.1
57.5°	350.6	369.4	408.1	446.7	464.3
60°	320.1	337.7	384.6	426.8	444.4
62.5°	287.3	310.7	361.2	405.7	423.3
65°	253.3	279.1	336.5	381.1	398.7
67.5°	222.8	250.9	311.9	356.5	374.1
70°	186.4	221.6	284.9	329.5	347.1
72.5°	152.4	191.1	256.8	300.2	316.6
75°	119.6	163.0	227.5	266.2	274.4
77.5°	89.1	134.8	197.0	213.4	207.5
80°	63.3	107.9	153.6	145.4	148.9
82.5°	41.0	82.1	95.0	107.9	111.4
85°	23.5	48.1	58.6	63.3	65.7
87.5°	10.6	17.6	23.5	23.5	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)