

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: P310105

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP125-W2A-U-3500K**

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: P310105
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: 24FCZ2-45HE-UNV-L82765-RDP-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 3500K 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

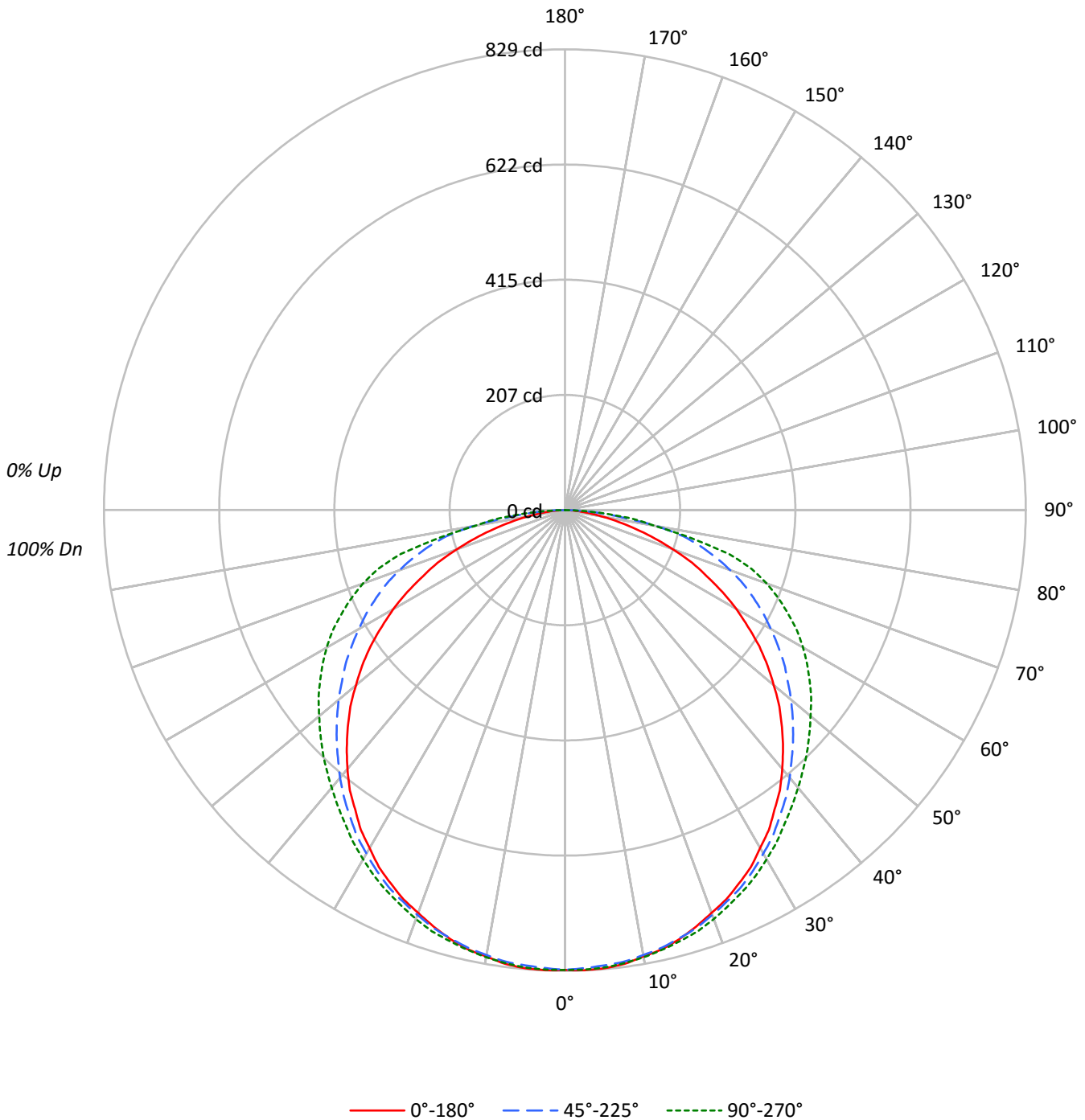
Lumens per Lamp: N/A
Luminaire Lumens: 2631.0 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34
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°	1113	1113	1113
5°	1118	1110	1116
10°	1114	1111	1116
15°	1113	1111	1118
20°	1104	1110	1121
25°	1100	1112	1124
30°	1091	1109	1127
35°	1080	1106	1132
40°	1068	1105	1146
45°	1050	1105	1172
50°	1027	1112	1207
55°	1001	1129	1261
60°	959	1152	1331
65°	897	1192	1413
70°	816	1247	1520
75°	692	1316	1588
80°	546	1325	1284
85°	403	1008	1129



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.5	3.0
10°-20°	225.9	8.6
20°-30°	345.4	13.1
30°-40°	422.3	16.0
40°-50°	450.0	17.1
50°-60°	430.3	16.4
60°-70°	364.5	13.9
70°-80°	245.0	9.3
80°-90°	69.1	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°	649.8	24.7
0°-40°	1072.0	40.7
0°-60°	1952.4	74.2
0°-90°	2631.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2631.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	826	822	826	826	79
15°	799	799	797	804	803	225
25°	741	744	749	756	757	342
35°	658	663	673	686	689	412
45°	552	561	581	606	616	426
55°	427	442	482	519	538	380
65°	282	311	374	424	444	280
75°	133	181	253	296	305	143
85°	26	54	65	70	73	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	827.4	827.4	827.4	827.4	827.4
2.5°	828.7	828.7	824.8	827.4	827.4
5°	827.4	826.1	822.2	826.1	826.1
7.5°	823.5	822.2	819.5	823.5	822.2
10°	815.6	815.6	813.0	816.9	816.9
12.5°	809.1	807.8	806.5	811.7	810.4
15°	798.7	798.7	797.4	803.9	802.6
17.5°	785.6	786.9	788.2	793.4	794.7
20°	771.3	773.9	775.2	783.0	783.0
22.5°	758.2	759.5	762.1	770.0	770.0
25°	741.2	743.9	749.1	755.6	756.9
27.5°	724.3	725.6	732.1	741.2	742.5
30°	702.1	706.0	713.8	724.3	725.6
32.5°	682.5	686.4	695.6	706.0	708.6
35°	657.7	662.9	673.4	686.4	689.0
37.5°	635.5	639.5	652.5	666.9	670.8
40°	608.1	616.0	629.0	646.0	652.5
42.5°	580.7	588.6	604.2	626.4	634.2
45°	552.0	561.2	580.7	605.5	616.0
47.5°	523.3	533.7	555.9	584.6	596.4
50°	490.7	503.7	531.1	563.8	576.8
52.5°	459.4	475.0	505.0	541.6	558.5
55°	426.7	442.4	481.5	519.4	537.7
57.5°	390.2	411.1	454.1	497.2	516.8
60°	356.3	375.8	428.0	475.0	494.6
62.5°	319.7	345.8	401.9	451.5	471.1
65°	281.9	310.6	374.5	424.1	443.7
67.5°	248.0	279.3	347.1	396.7	416.3
70°	207.5	246.6	317.1	366.7	386.3
72.5°	169.7	212.7	285.8	334.1	352.4
75°	133.1	181.4	253.2	296.2	305.4
77.5°	99.2	150.1	219.2	237.5	231.0
80°	70.5	120.1	171.0	161.8	165.7
82.5°	45.7	91.4	105.7	120.1	124.0
85°	26.1	53.5	65.3	70.5	73.1
87.5°	11.7	19.6	26.1	26.1	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)