

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: P310107

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-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: P310107
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 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: 2737.0 lumens
Efficiency: N/A
Efficacy: 79.6 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

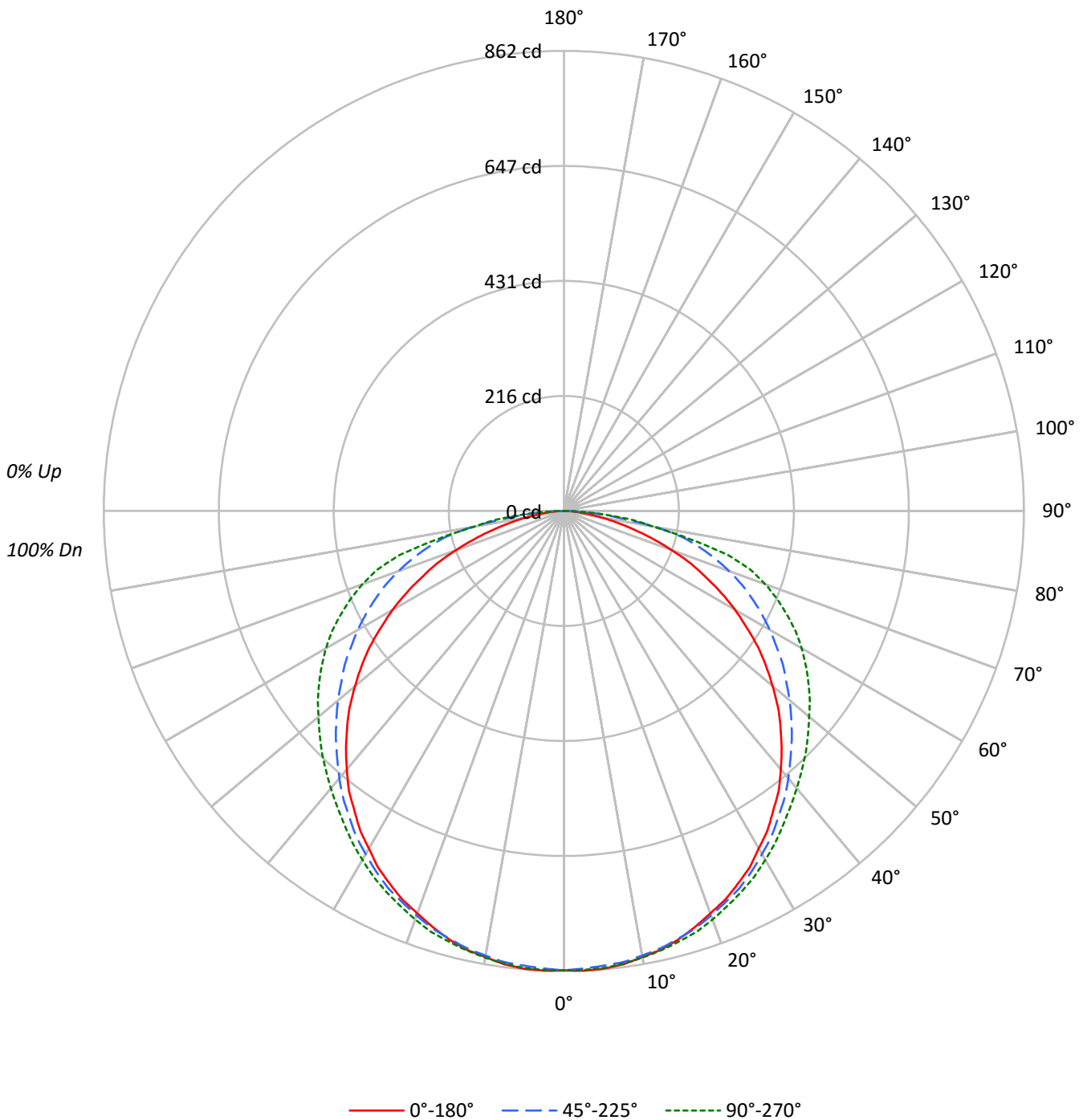
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1158	1158	1158
5°	1162	1155	1161
10°	1159	1156	1161
15°	1157	1155	1163
20°	1149	1155	1166
25°	1145	1157	1169
30°	1135	1154	1173
35°	1124	1151	1177
40°	1111	1149	1192
45°	1093	1149	1219
50°	1069	1156	1256
55°	1041	1175	1312
60°	997	1198	1385
65°	933	1240	1470
70°	849	1298	1581
75°	720	1369	1652
80°	568	1378	1336
85°	420	1048	1173



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.6	3.0
10°-20°	235.0	8.6
20°-30°	359.3	13.1
30°-40°	439.3	16.0
40°-50°	468.2	17.1
50°-60°	447.6	16.4
60°-70°	379.2	13.9
70°-80°	254.9	9.3
80°-90°	71.9	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°	676.0	24.7
0°-40°	1115.2	40.7
0°-60°	2031.0	74.2
0°-90°	2737.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2737.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	861	861	861	861	861	
5°	861	859	855	859	859	82
15°	831	831	830	836	835	234
25°	771	774	779	786	787	355
35°	684	690	700	714	717	429
45°	574	584	604	630	641	443
55°	444	460	501	540	559	395
65°	293	323	390	441	462	291
75°	138	189	263	308	318	148
85°	27	56	68	73	76	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	860.7	860.7	860.7	860.7	860.7
2.5°	862.1	862.1	858.0	860.7	860.7
5°	860.7	859.4	855.3	859.4	859.4
7.5°	856.6	855.3	852.6	856.6	855.3
10°	848.5	848.5	845.8	849.8	849.8
12.5°	841.7	840.3	839.0	844.4	843.1
15°	830.8	830.8	829.5	836.3	834.9
17.5°	817.3	818.6	820.0	825.4	826.8
20°	802.3	805.0	806.4	814.6	814.6
22.5°	788.8	790.1	792.8	801.0	801.0
25°	771.1	773.8	779.3	786.0	787.4
27.5°	753.5	754.8	761.6	771.1	772.5
30°	730.4	734.5	742.6	753.5	754.8
32.5°	710.0	714.1	723.6	734.5	737.2
35°	684.2	689.7	700.5	714.1	716.8
37.5°	661.1	665.2	678.8	693.7	697.8
40°	632.6	640.8	654.4	672.0	678.8
42.5°	604.1	612.3	628.6	651.6	659.8
45°	574.3	583.8	604.1	629.9	640.8
47.5°	544.4	555.3	578.3	608.2	620.4
50°	510.5	524.0	552.5	586.5	600.1
52.5°	477.9	494.2	525.4	563.4	581.0
55°	443.9	460.2	500.9	540.3	559.3
57.5°	405.9	427.6	472.4	517.2	537.6
60°	370.6	391.0	445.3	494.2	514.5
62.5°	332.6	359.8	418.1	469.7	490.1
65°	293.2	323.1	389.6	441.2	461.6
67.5°	257.9	290.5	361.1	412.7	433.1
70°	215.9	256.6	329.9	381.5	401.8
72.5°	176.5	221.3	297.3	347.5	366.5
75°	138.5	188.7	263.4	308.2	317.7
77.5°	103.2	156.1	228.1	247.1	240.3
80°	73.3	124.9	177.8	168.3	172.4
82.5°	47.5	95.0	110.0	124.9	129.0
85°	27.2	55.7	67.9	73.3	76.0
87.5°	12.2	20.4	27.2	27.2	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)