

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: P310796

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-2700K**

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: P310796
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 2700K 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: 3492.0 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

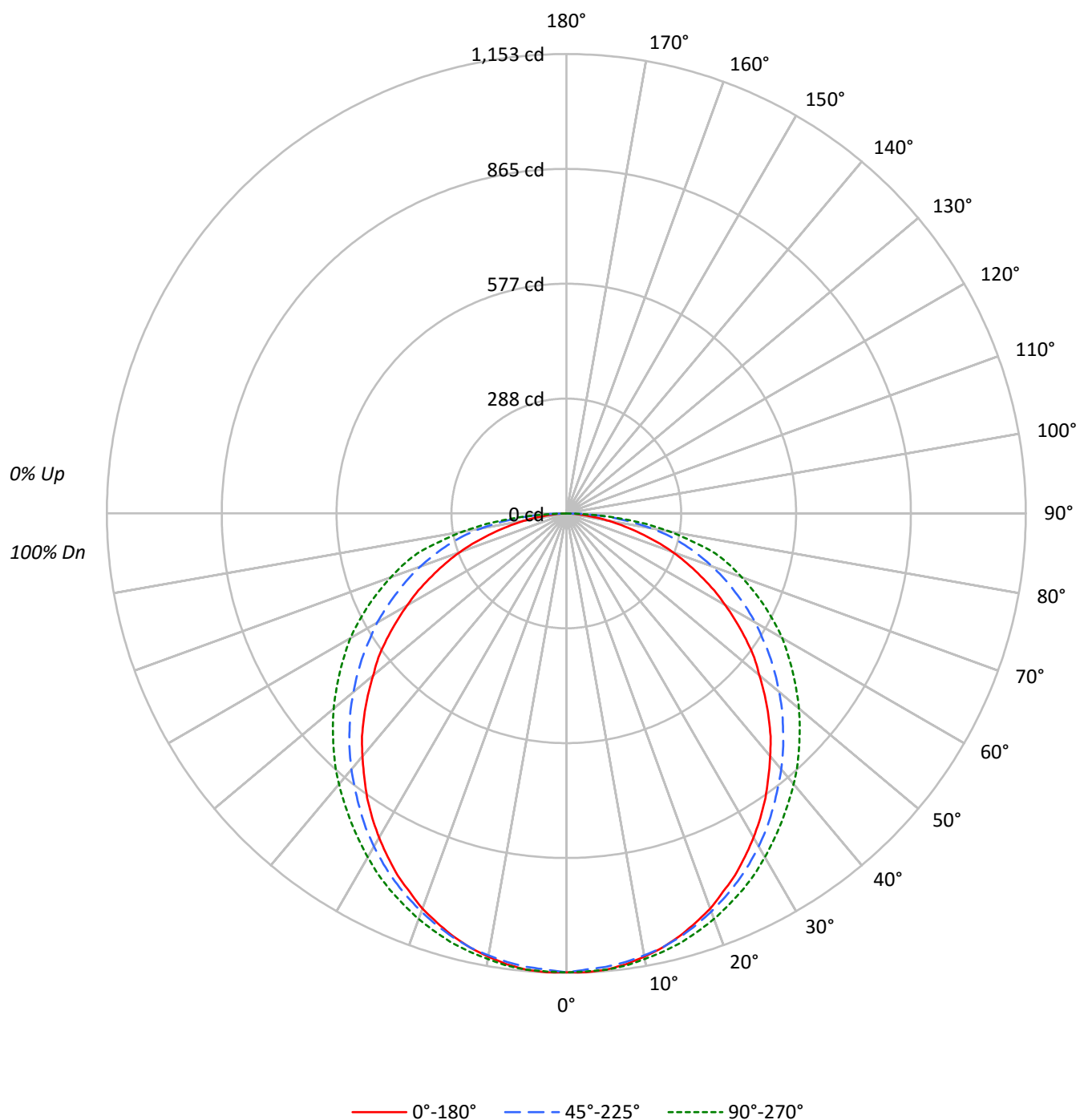
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1549	1549	1549
5°	1552	1543	1552
10°	1543	1539	1551
15°	1530	1533	1553
20°	1511	1523	1551
25°	1488	1512	1550
30°	1460	1499	1548
35°	1431	1484	1549
40°	1398	1473	1559
45°	1365	1464	1572
50°	1324	1460	1596
55°	1291	1462	1628
60°	1241	1475	1683
65°	1184	1490	1745
70°	1121	1536	1841
75°	1000	1602	2012
80°	853	1697	2056
85°	608	1681	1967



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	3.1
10°-20°	311.6	8.9
20°-30°	470.7	13.5
30°-40°	567.3	16.2
40°-50°	595.6	17.1
50°-60°	557.2	16.0
60°-70°	460.1	13.2
70°-80°	313.5	9.0
80°-90°	106.9	3.1
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°	891.3	25.5
0°-40°	1458.6	41.8
0°-60°	2611.4	74.8
0°-90°	3492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3492.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1152	1152	1152	1152	1152	
5°	1149	1148	1142	1149	1149	109
15°	1098	1100	1101	1112	1115	310
25°	1002	1007	1018	1038	1044	461
35°	871	880	904	934	943	544
45°	717	732	769	811	826	553
55°	550	572	623	674	694	491
65°	372	403	468	527	548	369
75°	192	236	308	366	387	205
85°	39	78	109	123	127	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1151.6	1151.6	1151.6	1151.6	1151.6
2.5°	1152.8	1151.6	1145.8	1151.6	1150.5
5°	1149.3	1148.2	1142.4	1149.3	1149.3
7.5°	1141.2	1141.2	1135.4	1143.5	1144.7
10°	1129.6	1129.6	1126.1	1135.4	1135.4
12.5°	1115.7	1115.7	1115.7	1125.0	1126.1
15°	1098.3	1099.5	1100.7	1112.2	1114.6
17.5°	1077.5	1079.8	1083.3	1097.2	1099.5
20°	1055.5	1057.8	1063.6	1079.8	1083.3
22.5°	1027.7	1033.5	1041.6	1060.1	1063.6
25°	1002.2	1006.8	1018.4	1038.1	1043.9
27.5°	970.9	977.8	992.9	1013.8	1021.9
30°	939.6	946.6	965.1	989.4	996.4
32.5°	906.0	916.4	936.1	961.6	969.7
35°	871.3	880.5	903.7	933.8	943.1
37.5°	833.0	845.8	871.3	903.7	915.3
40°	795.9	809.8	838.8	873.6	887.5
42.5°	758.9	772.8	805.2	844.6	858.5
45°	717.2	732.2	769.3	811.0	826.1
47.5°	675.5	694.0	734.5	778.6	794.8
50°	632.6	653.4	697.5	743.8	762.3
52.5°	594.4	614.0	660.4	710.2	727.6
55°	550.3	572.3	623.3	674.3	694.0
57.5°	505.1	529.5	583.9	639.5	659.2
60°	461.1	487.8	548.0	603.6	625.6
62.5°	418.2	444.9	507.5	565.4	587.4
65°	371.9	403.2	468.1	527.2	548.0
67.5°	327.9	361.5	429.8	487.8	508.6
70°	285.0	317.5	390.4	447.2	468.1
72.5°	238.7	275.7	348.7	407.8	429.8
75°	192.3	236.4	308.2	366.1	387.0
77.5°	149.5	194.6	266.5	314.0	324.4
80°	110.1	156.4	219.0	252.6	265.3
82.5°	70.7	117.0	166.8	191.2	201.6
85°	39.4	77.6	108.9	122.8	127.4
87.5°	16.2	33.6	44.0	49.8	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)