

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: P310844

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP250-W2A-U-4000K**

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: P310844
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: 24FCZ2-45-UNV-L82765-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4000K 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: 3839.0 lumens
Efficiency: N/A
Efficacy: 101.0 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

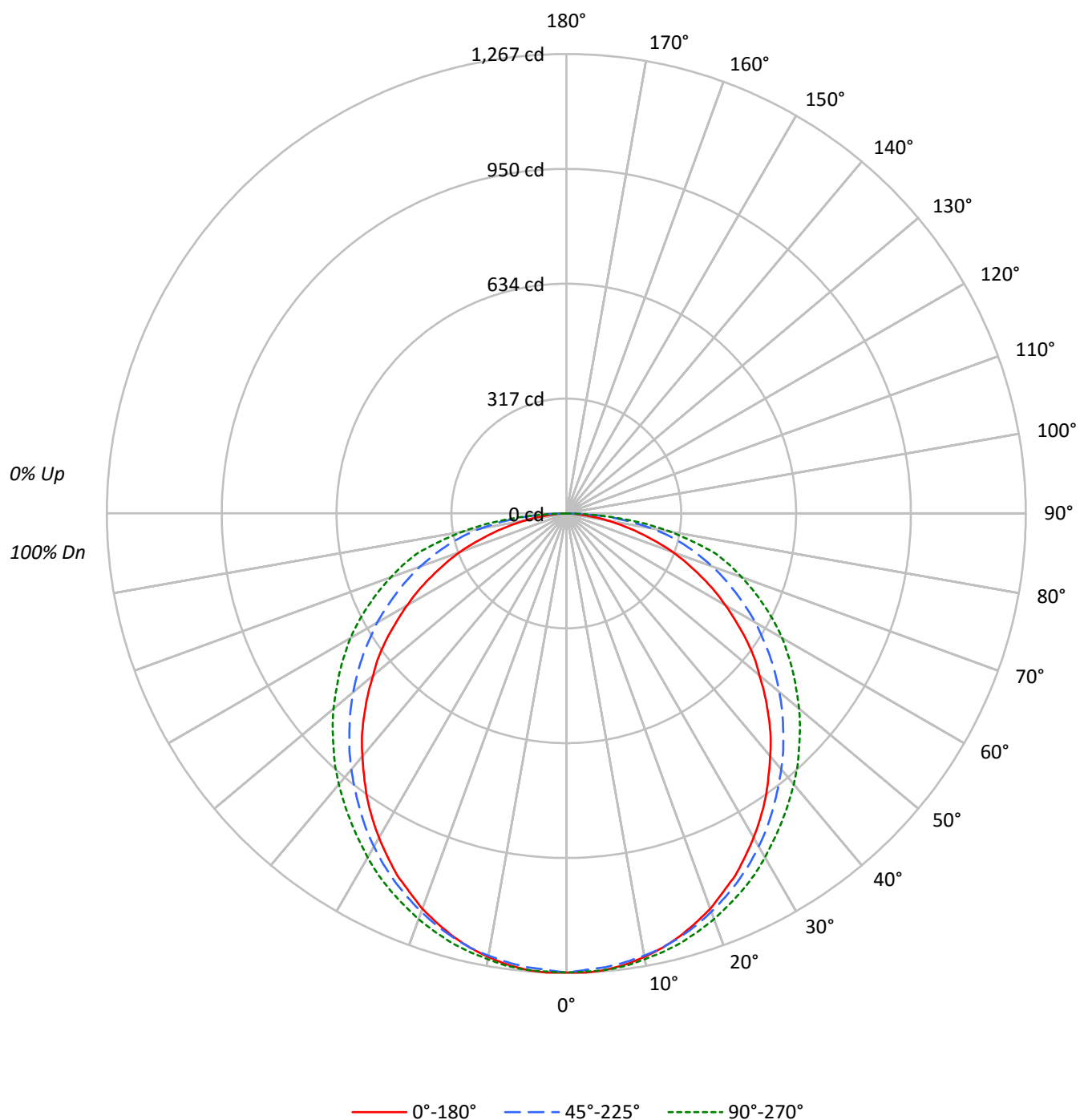
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	108	103	98	94	105	100	96	92		96	92	89		92	89	87		88	86	84
2	98	89	81	75	95	87	80	74		83	78	73		80	75	71		77	73	69
3	89	77	69	62	86	76	68	61		73	66	60		70	64	59		67	62	58
4	81	68	59	52	79	67	58	52		64	57	51		62	56	50		60	54	50
5	74	61	52	45	72	60	51	44		58	50	44		56	49	43		54	48	43
6	69	55	46	39	67	54	45	39		52	44	38		50	43	38		49	42	38
7	64	50	41	34	62	49	40	34		47	39	34		46	39	34		44	38	33
8	59	45	37	31	57	45	36	30		43	36	30		42	35	30		41	34	30
9	55	41	33	27	54	41	33	27		40	32	27		39	32	27		38	31	27
10	52	38	30	25	50	38	30	25		37	30	25		36	29	25		35	29	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1704	1704	1704
5°	1707	1696	1707
10°	1697	1691	1705
15°	1682	1685	1707
20°	1662	1674	1705
25°	1636	1662	1704
30°	1605	1648	1702
35°	1573	1632	1703
40°	1537	1620	1714
45°	1500	1609	1728
50°	1456	1605	1754
55°	1419	1608	1790
60°	1364	1621	1851
65°	1302	1638	1918
70°	1233	1688	2024
75°	1099	1761	2211
80°	938	1865	2260
85°	668	1848	2163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	3.1
10°-20°	342.6	8.9
20°-30°	517.5	13.5
30°-40°	623.7	16.2
40°-50°	654.7	17.1
50°-60°	612.6	16.0
60°-70°	505.9	13.2
70°-80°	344.7	9.0
80°-90°	117.6	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°	979.9	25.5
0°-40°	1603.6	41.8
0°-60°	2870.9	74.8
0°-90°	3839.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3839.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1266	1266	1266	1266	1266	
5°	1264	1262	1256	1264	1264	120
15°	1208	1209	1210	1223	1225	340
25°	1102	1107	1120	1141	1148	507
35°	958	968	994	1027	1037	599
45°	788	805	846	892	908	608
55°	605	629	685	741	763	540
65°	409	443	515	580	602	406
75°	211	260	339	402	425	225
85°	43	85	120	135	140	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1266.1	1266.1	1266.1	1266.1	1266.1
2.5°	1267.3	1266.1	1259.7	1266.1	1264.8
5°	1263.5	1262.2	1255.9	1263.5	1263.5
7.5°	1254.6	1254.6	1248.2	1257.2	1258.4
10°	1241.9	1241.9	1238.0	1248.2	1248.2
12.5°	1226.6	1226.6	1226.6	1236.8	1238.0
15°	1207.5	1208.8	1210.0	1222.8	1225.3
17.5°	1184.6	1187.1	1190.9	1206.2	1208.8
20°	1160.4	1162.9	1169.3	1187.1	1190.9
22.5°	1129.8	1136.2	1145.1	1165.4	1169.3
25°	1101.8	1106.9	1119.6	1141.2	1147.6
27.5°	1067.4	1075.0	1091.6	1114.5	1123.4
30°	1033.0	1040.6	1061.0	1087.7	1095.4
32.5°	996.0	1007.5	1029.2	1057.2	1066.1
35°	957.8	968.0	993.5	1026.6	1036.8
37.5°	915.8	929.8	957.8	993.5	1006.2
40°	875.0	890.3	922.2	960.4	975.7
42.5°	834.3	849.6	885.2	928.5	943.8
45°	788.4	805.0	845.7	891.6	908.2
47.5°	742.6	763.0	807.5	855.9	873.8
50°	695.4	718.4	766.8	817.7	838.1
52.5°	653.4	675.1	726.0	780.8	799.9
55°	605.0	629.2	685.3	741.3	763.0
57.5°	555.3	582.1	642.0	703.1	724.7
60°	506.9	536.2	602.5	663.6	687.8
62.5°	459.8	489.1	557.9	621.6	645.8
65°	408.9	443.3	514.6	579.5	602.5
67.5°	360.5	397.4	472.5	536.2	559.2
70°	313.3	349.0	429.2	491.7	514.6
72.5°	262.4	303.1	383.4	448.3	472.5
75°	211.4	259.8	338.8	402.5	425.4
77.5°	164.3	214.0	293.0	345.2	356.6
80°	121.0	172.0	240.7	277.7	291.7
82.5°	77.7	128.6	183.4	210.2	221.6
85°	43.3	85.3	119.7	135.0	140.1
87.5°	17.8	36.9	48.4	54.8	54.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)