

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: P310164

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CP187-W2A-U-5700K**

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: P310164
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: 24FCZ2-45-UNV-L82765-RDP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 5700K 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: 2719.0 lumens
Efficiency: N/A
Efficacy: 70.3 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

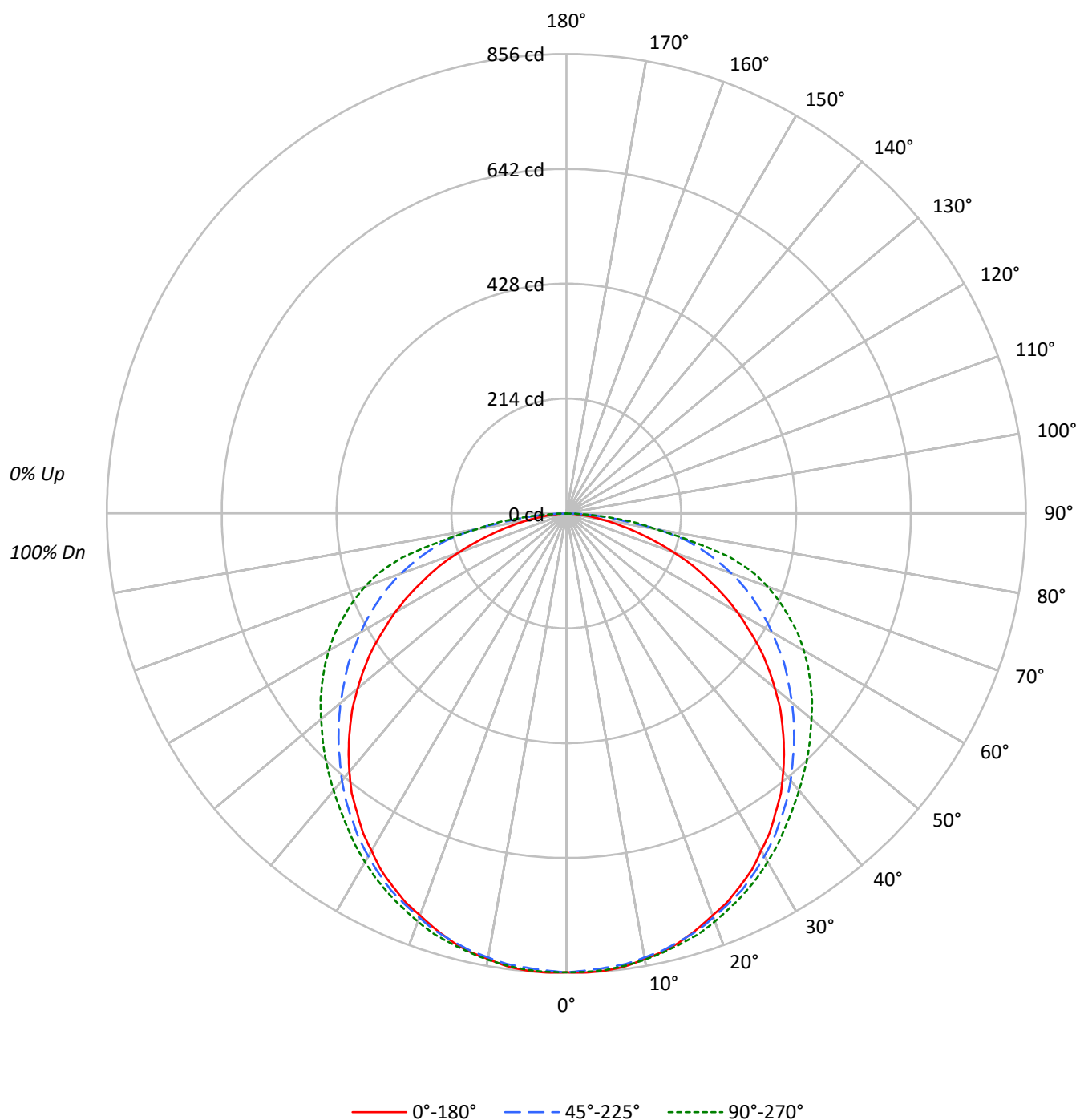
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1150	1150	1150
5°	1155	1148	1153
10°	1152	1148	1154
15°	1150	1148	1155
20°	1141	1147	1159
25°	1137	1149	1161
30°	1127	1146	1165
35°	1116	1143	1170
40°	1104	1142	1184
45°	1086	1142	1211
50°	1061	1149	1248
55°	1034	1167	1303
60°	991	1190	1375
65°	927	1232	1460
70°	843	1289	1570
75°	715	1360	1641
80°	564	1369	1327
85°	417	1041	1166



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	3.0
10°-20°	233.4	8.6
20°-30°	357.0	13.1
30°-40°	436.4	16.0
40°-50°	465.1	17.1
50°-60°	444.7	16.4
60°-70°	376.7	13.9
70°-80°	253.2	9.3
80°-90°	71.4	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°	671.5	24.7
0°-40°	1107.9	40.7
0°-60°	2017.7	74.2
0°-90°	2719.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2719.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	855	855	855	855	855	
5°	855	854	850	854	854	81
15°	825	825	824	831	829	233
25°	766	769	774	781	782	353
35°	680	685	696	709	712	426
45°	570	580	600	626	637	440
55°	441	457	498	537	556	393
65°	291	321	387	438	458	289
75°	138	188	262	306	316	147
85°	27	55	67	73	76	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	855.0	855.0	855.0	855.0	855.0
2.5°	856.4	856.4	852.4	855.0	855.0
5°	855.0	853.7	849.7	853.7	853.7
7.5°	851.0	849.7	847.0	851.0	849.7
10°	842.9	842.9	840.2	844.3	844.3
12.5°	836.2	834.8	833.5	838.9	837.5
15°	825.4	825.4	824.0	830.8	829.4
17.5°	811.9	813.2	814.6	820.0	821.3
20°	797.1	799.8	801.1	809.2	809.2
22.5°	783.6	784.9	787.6	795.7	795.7
25°	766.0	768.7	774.1	780.9	782.2
27.5°	748.5	749.9	756.6	766.0	767.4
30°	725.6	729.6	737.7	748.5	749.9
32.5°	705.3	709.4	718.8	729.6	732.3
35°	679.7	685.1	695.9	709.4	712.1
37.5°	656.8	660.8	674.3	689.2	693.2
40°	628.5	636.6	650.1	667.6	674.3
42.5°	600.2	608.2	624.4	647.4	655.4
45°	570.5	579.9	600.2	625.8	636.6
47.5°	540.8	551.6	574.5	604.2	616.3
50°	507.1	520.6	548.9	582.6	596.1
52.5°	474.7	490.9	521.9	559.7	577.2
55°	441.0	457.2	497.7	536.8	555.6
57.5°	403.2	424.8	469.3	513.8	534.1
60°	368.2	388.4	442.4	490.9	511.1
62.5°	330.4	357.4	415.4	466.6	486.9
65°	291.3	321.0	387.1	438.3	458.5
67.5°	256.2	288.6	358.7	410.0	430.2
70°	214.4	254.9	327.7	379.0	399.2
72.5°	175.3	219.8	295.4	345.3	364.1
75°	137.6	187.5	261.6	306.1	315.6
77.5°	102.5	155.1	226.6	245.5	238.7
80°	72.8	124.1	176.7	167.2	171.3
82.5°	47.2	94.4	109.2	124.1	128.1
85°	27.0	55.3	67.4	72.8	75.5
87.5°	12.1	20.2	27.0	27.0	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)