

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: P311373

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-3000K**

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: P311373
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 3456.0 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

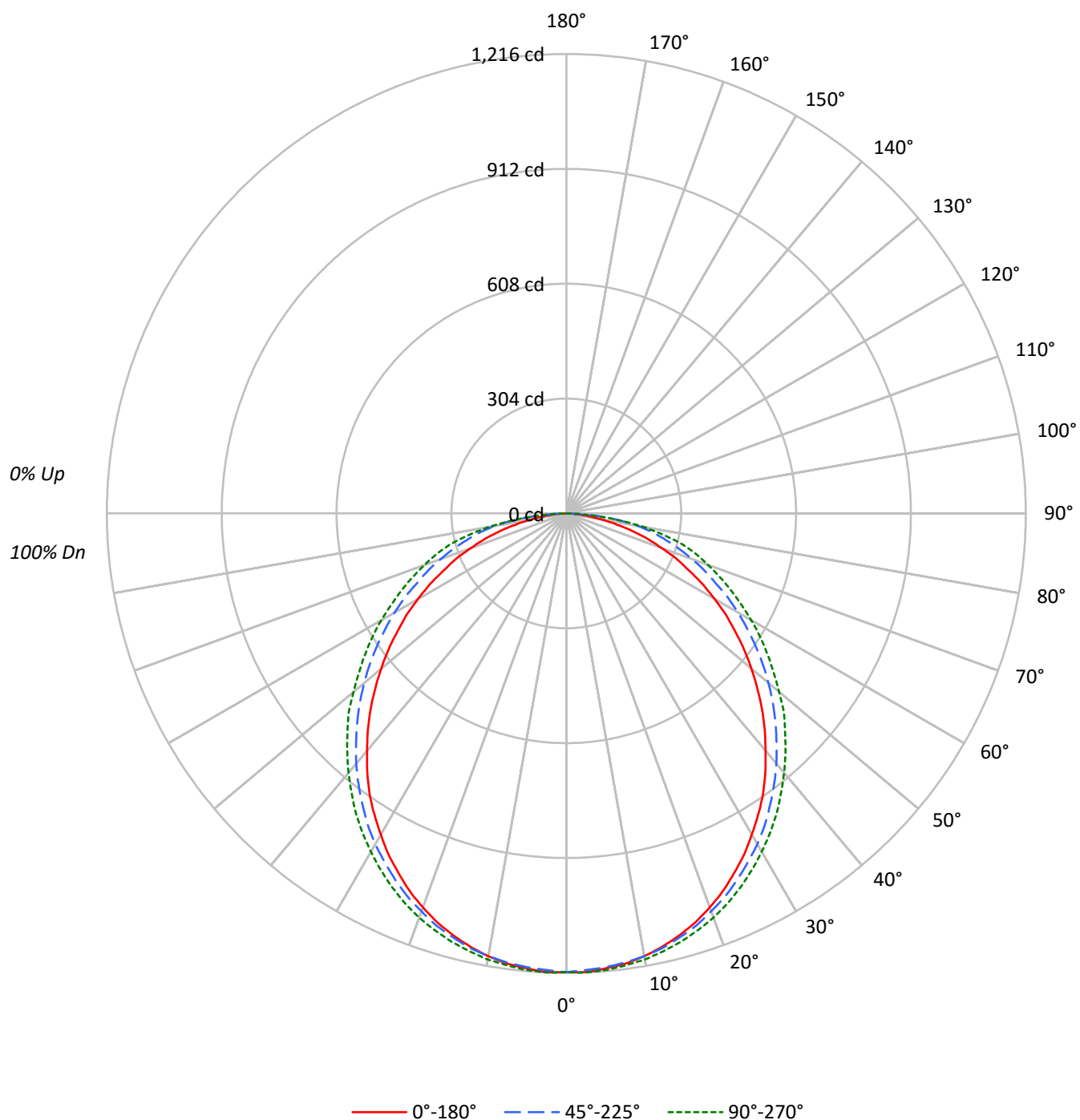
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1634	1634	1634
5°	1632	1628	1638
10°	1626	1626	1638
15°	1610	1618	1635
20°	1589	1605	1630
25°	1560	1589	1620
30°	1525	1571	1607
35°	1491	1545	1594
40°	1440	1519	1575
45°	1393	1489	1558
50°	1340	1461	1540
55°	1280	1434	1525
60°	1220	1412	1521
65°	1143	1387	1531
70°	1058	1395	1572
75°	947	1421	1660
80°	766	1506	1625
85°	576	1321	1288



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.9	3.3
10°-20°	328.4	9.5
20°-30°	493.7	14.3
30°-40°	588.1	17.0
40°-50°	601.9	17.4
50°-60°	541.9	15.7
60°-70°	425.5	12.3
70°-80°	276.2	8.0
80°-90°	85.4	2.5
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°	937.1	27.1
0°-40°	1525.1	44.1
0°-60°	2668.9	77.2
0°-90°	3456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1214	1214	1214	1214	1214	
5°	1209	1211	1205	1212	1213	115
15°	1156	1159	1161	1171	1174	326
25°	1051	1059	1070	1088	1091	484
35°	908	919	941	964	970	566
45°	732	750	783	812	819	564
55°	546	570	611	643	650	489
65°	359	386	436	472	481	357
75°	182	217	273	311	319	193
85°	37	69	86	83	83	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1214.1	1214.1	1214.1	1214.1	1214.1
2.5°	1215.2	1215.2	1209.7	1215.2	1216.3
5°	1208.6	1210.8	1205.3	1211.9	1213.0
7.5°	1202.0	1202.0	1198.7	1205.3	1206.4
10°	1190.0	1191.1	1190.0	1197.6	1198.7
12.5°	1174.6	1176.8	1177.9	1185.6	1186.7
15°	1155.9	1159.2	1161.4	1171.3	1173.5
17.5°	1135.1	1138.4	1143.9	1154.8	1157.0
20°	1109.8	1114.2	1120.8	1135.1	1138.4
22.5°	1082.4	1086.8	1097.8	1110.9	1116.4
25°	1050.6	1059.3	1070.3	1087.9	1091.2
27.5°	1018.7	1026.4	1040.7	1059.3	1063.7
30°	981.4	993.5	1011.0	1029.7	1034.1
32.5°	945.2	957.2	978.1	997.9	1003.3
35°	907.8	918.8	940.8	963.8	970.4
37.5°	865.0	879.3	903.5	926.5	933.1
40°	820.0	837.6	865.0	889.2	896.9
42.5°	777.2	795.9	823.3	849.7	858.4
45°	732.2	749.8	782.7	812.3	818.9
47.5°	686.1	705.9	741.0	770.6	781.6
50°	640.0	660.8	698.2	728.9	735.5
52.5°	593.9	615.8	655.4	688.3	691.6
55°	545.6	569.7	611.4	643.3	649.9
57.5°	501.7	522.5	567.5	600.5	608.2
60°	453.4	476.4	524.7	555.5	565.3
62.5°	407.3	431.4	481.9	512.7	521.4
65°	359.0	386.4	435.8	472.0	480.8
67.5°	317.3	343.6	396.3	431.4	440.2
70°	268.9	298.6	354.6	390.8	399.6
72.5°	227.2	258.0	314.0	349.1	362.3
75°	182.2	217.4	273.3	310.7	319.4
77.5°	138.3	178.9	236.0	264.6	264.6
80°	98.8	141.6	194.3	207.5	209.7
82.5°	64.8	106.5	143.8	142.7	142.7
85°	37.3	69.2	85.6	83.4	83.4
87.5°	14.3	28.5	30.7	30.7	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)