

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: P314231

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-3500K**

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: P314231
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: 24FCZ2-35HE-UNV-L83050-S-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 3163.0 lumens
Efficiency: N/A
Efficacy: 121.7 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

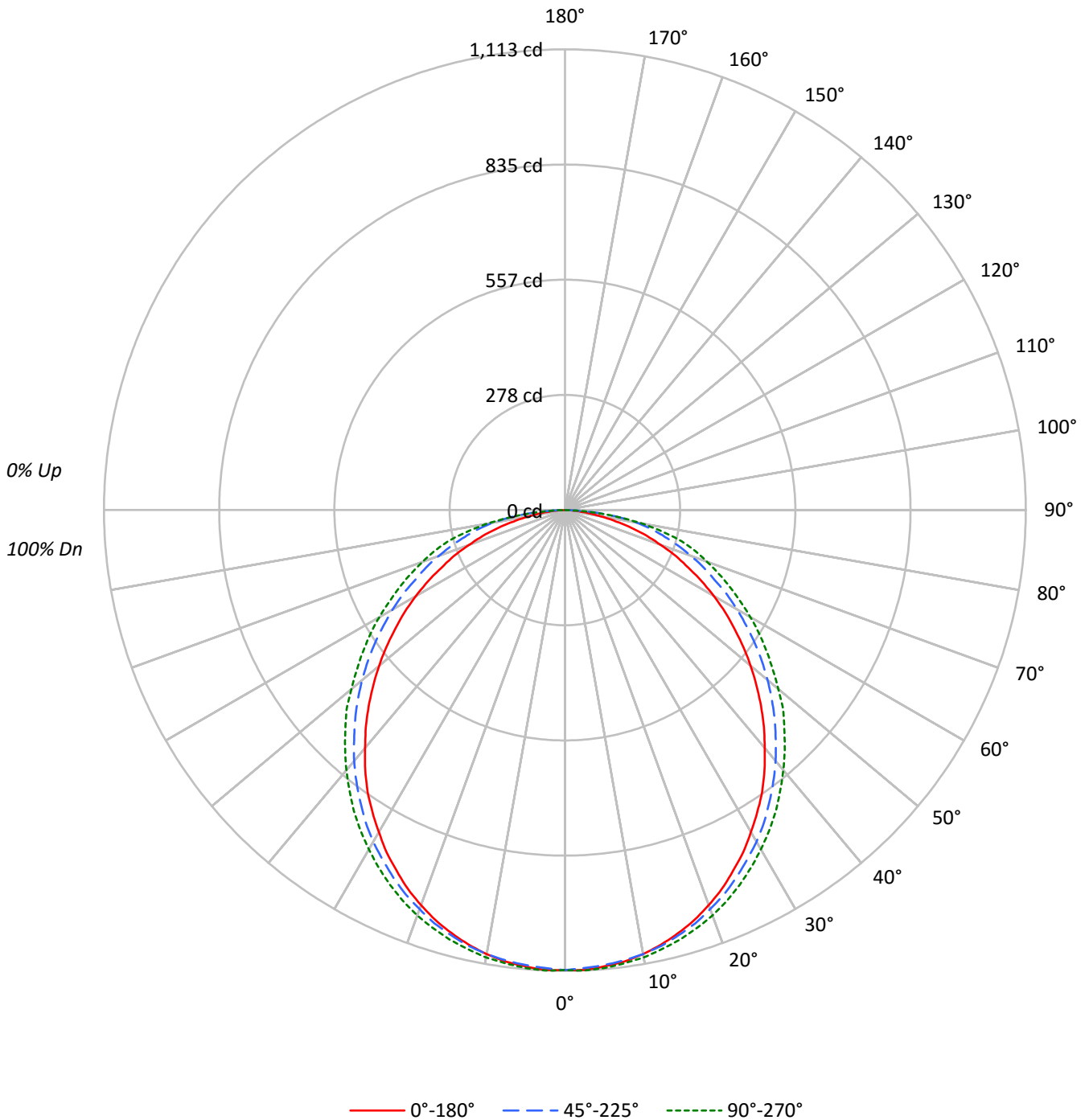
Input Watts (W): 26
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1495	1495	1495
5°	1494	1490	1499
10°	1488	1488	1499
15°	1474	1481	1496
20°	1454	1469	1492
25°	1427	1454	1483
30°	1395	1438	1470
35°	1365	1414	1459
40°	1318	1391	1442
45°	1275	1363	1426
50°	1226	1338	1409
55°	1171	1313	1395
60°	1116	1292	1392
65°	1046	1270	1401
70°	968	1277	1439
75°	867	1301	1520
80°	700	1378	1487
85°	528	1210	1179



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	3.3
10°-20°	300.6	9.5
20°-30°	451.8	14.3
30°-40°	538.2	17.0
40°-50°	550.8	17.4
50°-60°	495.9	15.7
60°-70°	389.5	12.3
70°-80°	252.8	8.0
80°-90°	78.2	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°	857.6	27.1
0°-40°	1395.8	44.1
0°-60°	2442.6	77.2
0°-90°	3163.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1111	1111	1111	1111	1111	
5°	1106	1108	1103	1109	1110	105
15°	1058	1061	1063	1072	1074	298
25°	962	970	980	996	999	443
35°	831	841	861	882	888	518
45°	670	686	716	744	750	517
55°	499	521	560	589	595	448
65°	328	354	399	432	440	327
75°	167	199	250	284	292	176
85°	34	63	78	76	76	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1111.2	1111.2	1111.2	1111.2	1111.2
2.5°	1112.2	1112.2	1107.2	1112.2	1113.2
5°	1106.2	1108.2	1103.1	1109.2	1110.2
7.5°	1100.1	1100.1	1097.1	1103.1	1104.1
10°	1089.1	1090.1	1089.1	1096.1	1097.1
12.5°	1075.0	1077.0	1078.0	1085.1	1086.1
15°	1057.9	1060.9	1063.0	1072.0	1074.0
17.5°	1038.8	1041.9	1046.9	1056.9	1058.9
20°	1015.7	1019.8	1025.8	1038.8	1041.9
22.5°	990.6	994.6	1004.7	1016.7	1021.8
25°	961.5	969.5	979.6	995.6	998.7
27.5°	932.3	939.4	952.4	969.5	973.5
30°	898.2	909.2	925.3	942.4	946.4
32.5°	865.0	876.1	895.2	913.3	918.3
35°	830.9	840.9	861.0	882.1	888.1
37.5°	791.7	804.8	826.9	848.0	854.0
40°	750.5	766.6	791.7	813.8	820.8
42.5°	711.3	728.4	753.5	777.6	785.7
45°	670.1	686.2	716.3	743.5	749.5
47.5°	627.9	646.0	678.2	705.3	715.3
50°	585.7	604.8	639.0	667.1	673.1
52.5°	543.5	563.6	599.8	629.9	633.0
55°	499.3	521.4	559.6	588.7	594.8
57.5°	459.1	478.2	519.4	549.6	556.6
60°	414.9	436.0	480.2	508.4	517.4
62.5°	372.7	394.8	441.1	469.2	477.2
65°	328.5	353.6	398.9	432.0	440.1
67.5°	290.4	314.5	362.7	394.8	402.9
70°	246.1	273.3	324.5	357.7	365.7
72.5°	208.0	236.1	287.3	319.5	331.5
75°	166.8	198.9	250.2	284.3	292.4
77.5°	126.6	163.8	216.0	242.1	242.1
80°	90.4	129.6	177.8	189.9	191.9
82.5°	59.3	97.5	131.6	130.6	130.6
85°	34.2	63.3	78.4	76.4	76.4
87.5°	13.1	26.1	28.1	28.1	27.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)