

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: P313207

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP187-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: P313207
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 3130.0 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

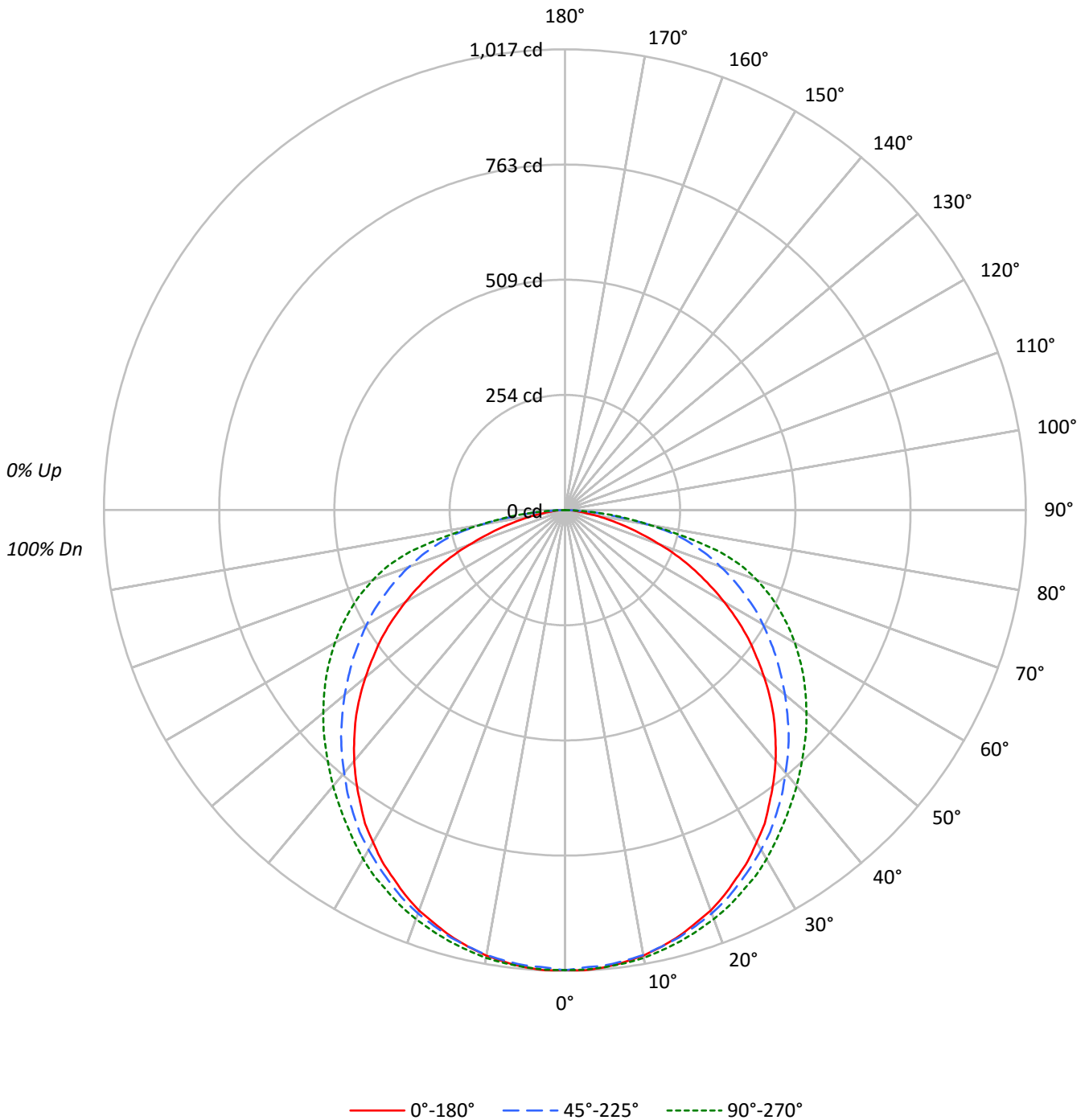
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1366	1366	1366
5°	1368	1363	1368
10°	1364	1362	1371
15°	1356	1360	1373
20°	1347	1357	1375
25°	1331	1350	1377
30°	1315	1346	1382
35°	1293	1339	1384
40°	1270	1330	1397
45°	1242	1329	1419
50°	1201	1328	1456
55°	1159	1337	1509
60°	1093	1358	1576
65°	1010	1389	1664
70°	882	1438	1773
75°	715	1512	1832
80°	528	1482	1482
85°	404	1093	1233



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.2	3.1
10°-20°	276.3	8.8
20°-30°	420.6	13.4
30°-40°	510.7	16.3
40°-50°	539.5	17.2
50°-60°	509.1	16.3
60°-70°	423.3	13.5
70°-80°	278.5	8.9
80°-90°	75.9	2.4
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°	793.0	25.3
0°-40°	1303.7	41.7
0°-60°	2352.3	75.2
0°-90°	3130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1016	1016	1016	1016	1016	
5°	1013	1013	1009	1013	1013	96
15°	974	975	976	985	985	275
25°	896	902	909	925	928	413
35°	788	797	815	836	843	493
45°	653	666	698	732	746	503
55°	494	515	570	624	643	440
65°	317	354	436	501	523	313
75°	138	200	291	345	352	148
85°	26	58	71	79	80	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1015.5	1015.5	1015.5	1015.5	1015.5
2.5°	1016.8	1015.5	1010.3	1015.5	1015.5
5°	1012.9	1012.9	1009.0	1012.9	1012.9
7.5°	1006.4	1006.4	1003.7	1009.0	1009.0
10°	998.5	998.5	997.2	1003.7	1003.7
12.5°	986.7	988.0	986.7	994.6	994.6
15°	973.6	974.9	976.2	985.4	985.4
17.5°	956.6	959.2	961.8	972.3	973.6
20°	940.8	942.2	947.4	959.2	960.5
22.5°	919.9	923.8	930.4	942.2	946.1
25°	896.3	901.5	909.4	925.1	927.7
27.5°	874.0	877.9	888.4	905.5	910.7
30°	846.5	853.0	866.1	883.2	889.7
32.5°	820.3	826.8	842.6	860.9	866.1
35°	787.5	796.7	815.0	836.0	842.6
37.5°	756.1	765.3	787.5	811.1	819.0
40°	723.3	733.8	757.4	784.9	795.4
42.5°	687.9	702.4	728.6	758.7	770.5
45°	652.6	665.7	698.4	732.5	745.6
47.5°	614.6	630.3	665.7	706.3	722.0
50°	573.9	593.6	634.2	678.8	695.8
52.5°	533.3	555.6	601.5	651.3	669.6
55°	494.0	515.0	570.0	623.7	643.4
57.5°	450.8	477.0	537.2	594.9	614.6
60°	406.2	435.0	504.5	564.8	585.7
62.5°	361.7	394.4	473.0	533.3	555.6
65°	317.1	353.8	436.4	500.6	522.8
67.5°	273.9	314.5	402.3	466.5	488.8
70°	224.1	275.2	365.6	428.5	450.8
72.5°	178.2	237.2	330.2	389.2	408.8
75°	137.6	200.5	290.9	344.6	352.5
77.5°	100.9	163.8	250.3	268.6	269.9
80°	68.1	131.0	191.3	188.7	191.3
82.5°	44.6	98.3	120.6	135.0	136.3
85°	26.2	57.7	70.8	78.6	79.9
87.5°	13.1	19.7	24.9	26.2	28.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)