

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: P313214

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CP250-W2A-U-5000K**

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: P313214
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5000K 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: 3134.0 lumens
Efficiency: N/A
Efficacy: 88.3 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

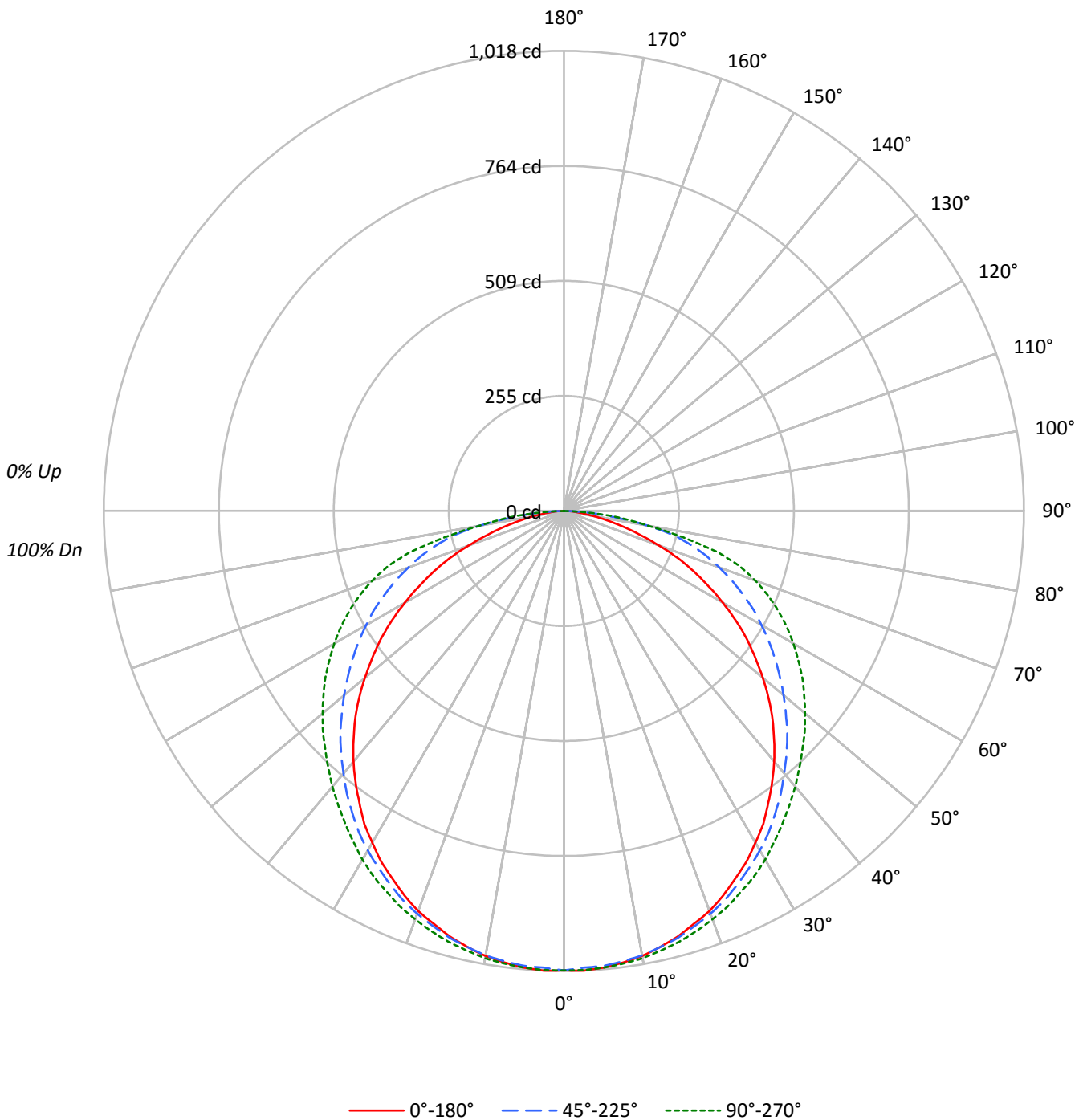
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1368	1368	1368
5°	1370	1365	1370
10°	1366	1364	1373
15°	1358	1362	1374
20°	1349	1358	1377
25°	1332	1352	1379
30°	1317	1347	1384
35°	1295	1340	1386
40°	1272	1332	1399
45°	1243	1331	1420
50°	1203	1329	1458
55°	1160	1339	1511
60°	1094	1359	1578
65°	1011	1391	1667
70°	883	1440	1775
75°	716	1514	1835
80°	528	1485	1485
85°	404	1095	1235



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.3	3.1
10°-20°	276.6	8.8
20°-30°	421.1	13.4
30°-40°	511.3	16.3
40°-50°	540.2	17.2
50°-60°	509.7	16.3
60°-70°	423.8	13.5
70°-80°	278.8	8.9
80°-90°	76.0	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°	794.0	25.3
0°-40°	1305.4	41.7
0°-60°	2355.3	75.2
0°-90°	3134.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3134.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1017	1017	1017	1017	1017	
5°	1014	1014	1010	1014	1014	96
15°	975	976	978	987	987	275
25°	897	903	911	926	929	414
35°	788	798	816	837	844	494
45°	653	666	699	733	746	503
55°	495	516	571	624	644	441
65°	318	354	437	501	524	314
75°	138	201	291	345	353	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°	1016.8	1016.8	1016.8	1016.8	1016.8
2.5°	1018.1	1016.8	1011.6	1016.8	1016.8
5°	1014.2	1014.2	1010.3	1014.2	1014.2
7.5°	1007.6	1007.6	1005.0	1010.3	1010.3
10°	999.8	999.8	998.5	1005.0	1005.0
12.5°	988.0	989.3	988.0	995.8	995.8
15°	974.8	976.2	977.5	986.7	986.7
17.5°	957.8	960.4	963.0	973.5	974.8
20°	942.0	943.4	948.6	960.4	961.7
22.5°	921.1	925.0	931.5	943.4	947.3
25°	897.4	902.7	910.6	926.3	928.9
27.5°	875.1	879.1	889.6	906.6	911.9
30°	847.6	854.1	867.3	884.3	890.9
32.5°	821.3	827.9	843.6	862.0	867.3
35°	788.5	797.7	816.1	837.1	843.6
37.5°	757.0	766.2	788.5	812.2	820.0
40°	724.2	734.7	758.4	785.9	796.4
42.5°	688.8	703.3	729.5	759.7	771.5
45°	653.4	666.5	699.3	733.4	746.5
47.5°	615.3	631.1	666.5	707.2	722.9
50°	574.7	594.4	635.0	679.6	696.7
52.5°	534.0	556.3	602.2	652.1	670.5
55°	494.6	515.6	570.7	624.5	644.2
57.5°	451.3	477.6	537.9	595.7	615.3
60°	406.7	435.6	505.1	565.5	586.5
62.5°	362.1	394.9	473.6	534.0	556.3
65°	317.5	354.3	436.9	501.2	523.5
67.5°	274.2	314.9	402.8	467.1	489.4
70°	224.4	275.5	366.1	429.0	451.3
72.5°	178.4	237.5	330.6	389.7	409.4
75°	137.8	200.7	291.3	345.1	352.9
77.5°	101.0	164.0	250.6	269.0	270.3
80°	68.2	131.2	191.6	188.9	191.6
82.5°	44.6	98.4	120.7	135.1	136.5
85°	26.2	57.7	70.9	78.7	80.0
87.5°	13.1	19.7	24.9	26.2	28.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)