

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: METALUX

Report Number: P276405

Luminaire Tested: **24CZ2-45HE-S-UNV-L93050-W2A1-U-4500K**

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: P276405
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: METALUX
Catalog Number: 24CZ2-45HE-S-UNV-L93050-W2A1-U-4500K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4163.8 lumens
Efficiency: N/A
Efficacy: 127.1 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

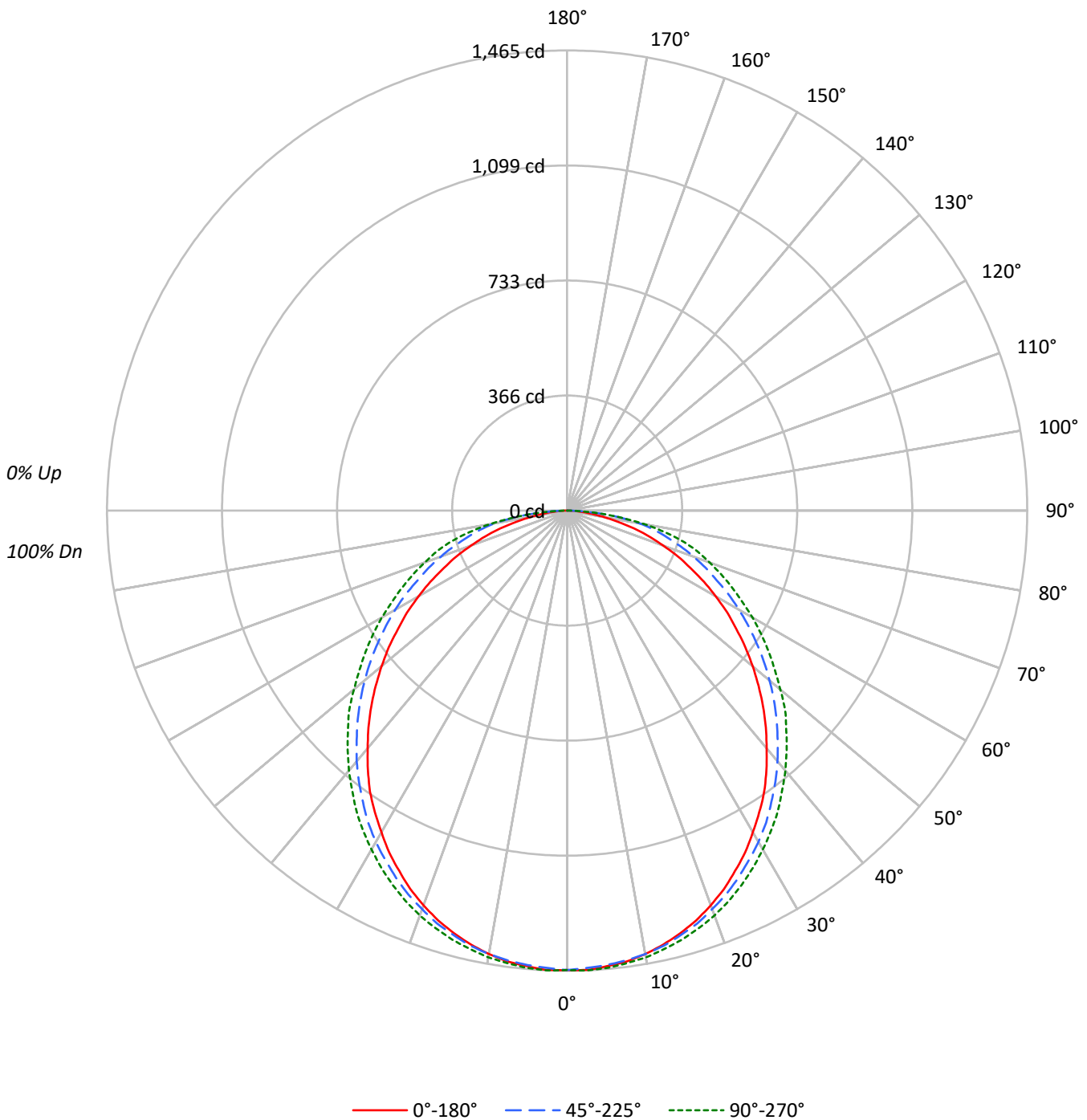
Input Watts (W): 32.754228
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1968	1968	1968
5°	1967	1961	1974
10°	1959	1959	1973
15°	1940	1949	1969
20°	1915	1934	1964
25°	1879	1914	1952
30°	1837	1892	1936
35°	1797	1862	1920
40°	1735	1831	1898
45°	1679	1794	1878
50°	1614	1761	1855
55°	1542	1728	1837
60°	1470	1701	1833
65°	1377	1672	1844
70°	1275	1681	1894
75°	1141	1712	2001
80°	922	1814	1957
85°	695	1593	1551



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.5	3.3
10°-20°	395.7	9.5
20°-30°	594.8	14.3
30°-40°	708.5	17.0
40°-50°	725.1	17.4
50°-60°	652.8	15.7
60°-70°	512.7	12.3
70°-80°	332.7	8.0
80°-90°	102.9	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°	1129.0	27.1
0°-40°	1837.5	44.1
0°-60°	3215.5	77.2
0°-90°	4163.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4163.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1463	1463	1463	1463	1463	
5°	1456	1459	1452	1460	1462	138
15°	1393	1397	1399	1411	1414	393
25°	1266	1276	1290	1311	1315	583
35°	1094	1107	1134	1161	1169	682
45°	882	903	943	979	987	680
55°	657	686	737	775	783	589
65°	432	466	525	569	579	431
75°	220	262	329	374	385	232
85°	45	83	103	100	100	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1462.8	1462.8	1462.8	1462.8	1462.8
2.5°	1464.1	1464.1	1457.5	1464.1	1465.4
5°	1456.2	1458.8	1452.2	1460.1	1461.5
7.5°	1448.2	1448.2	1444.3	1452.2	1453.5
10°	1433.7	1435.0	1433.7	1442.9	1444.3
12.5°	1415.2	1417.8	1419.1	1428.4	1429.7
15°	1392.7	1396.7	1399.3	1411.2	1413.8
17.5°	1367.6	1371.5	1378.1	1391.4	1394.0
20°	1337.1	1342.4	1350.4	1367.6	1371.5
22.5°	1304.1	1309.4	1322.6	1338.5	1345.1
25°	1265.7	1276.3	1289.5	1310.7	1314.7
27.5°	1227.4	1236.6	1253.8	1276.3	1281.6
30°	1182.4	1196.9	1218.1	1240.6	1245.9
32.5°	1138.7	1153.3	1178.4	1202.2	1208.8
35°	1093.8	1107.0	1133.5	1161.2	1169.2
37.5°	1042.2	1059.4	1088.5	1116.3	1124.2
40°	988.0	1009.1	1042.2	1071.3	1080.6
42.5°	936.4	958.9	991.9	1023.7	1034.3
45°	882.2	903.3	943.0	978.7	986.7
47.5°	826.6	850.4	892.7	928.5	941.7
50°	771.1	796.2	841.2	878.2	886.1
52.5°	715.5	742.0	789.6	829.3	833.2
55°	657.3	686.4	736.7	775.0	783.0
57.5°	604.4	629.6	683.8	723.5	732.7
60°	546.2	574.0	632.2	669.2	681.1
62.5°	490.7	519.8	580.6	617.6	628.2
65°	432.5	465.6	525.1	568.7	579.3
67.5°	382.2	414.0	477.5	519.8	530.4
70°	324.0	359.7	427.2	470.8	481.4
72.5°	273.8	310.8	378.3	420.6	436.5
75°	219.5	261.9	329.3	374.3	384.9
77.5°	166.6	215.6	284.4	318.7	318.7
80°	119.0	170.6	234.1	250.0	252.6
82.5°	78.0	128.3	173.3	171.9	171.9
85°	45.0	83.3	103.2	100.5	100.5
87.5°	17.2	34.4	37.0	37.0	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)