

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: NEO-RAY

Report Number: P243402

Luminaire Tested: **S123RDR-H1000D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243402
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-H1000D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3574.6 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

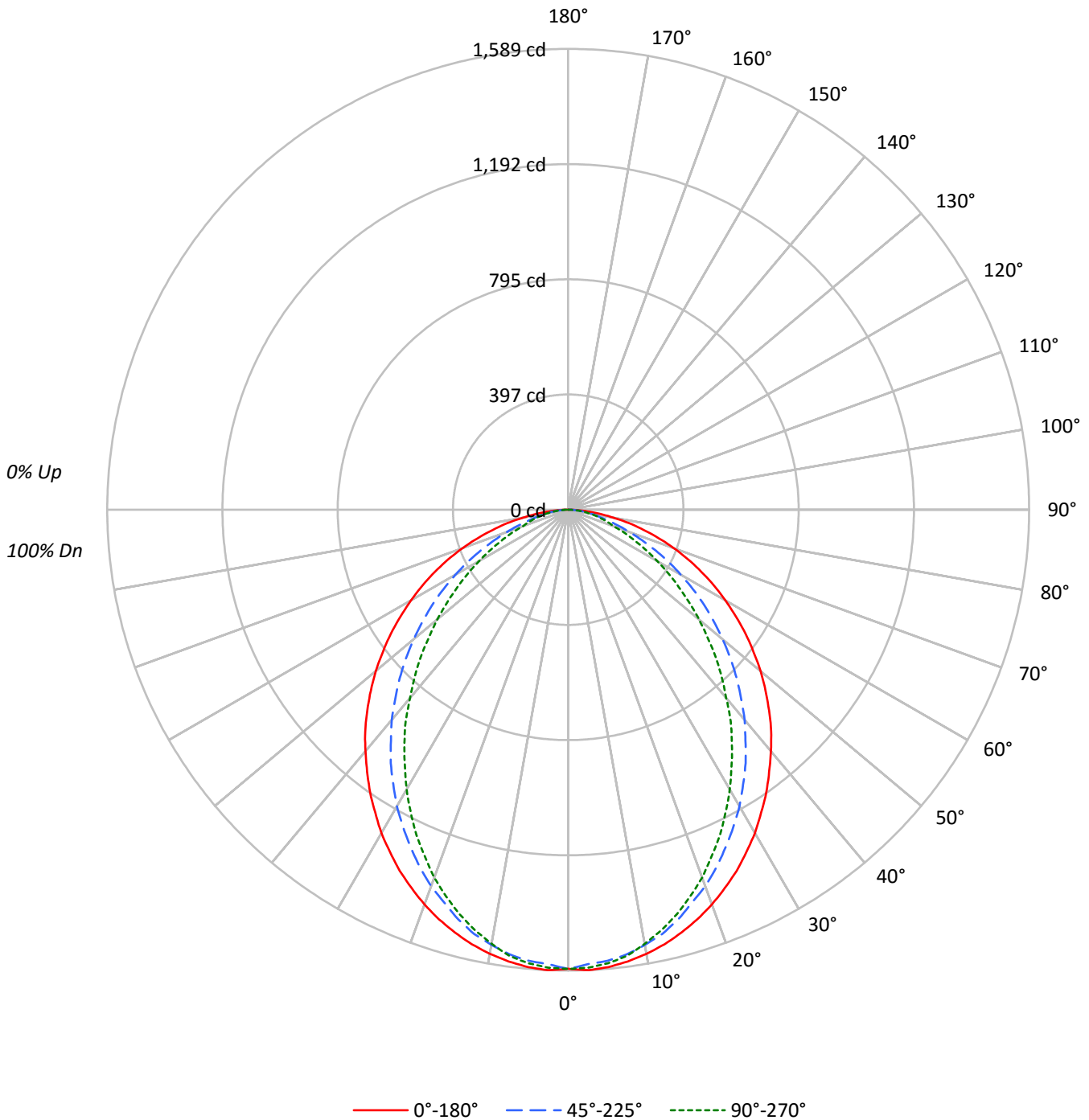
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19190	19190	19190
5°	19264	18997	19101
10°	19142	18753	18708
15°	18936	18356	18128
20°	18681	17818	17410
25°	18378	17174	16556
30°	18023	16526	15589
35°	17615	15780	14556
40°	17201	14969	13410
45°	16780	14070	12341
50°	16327	13093	11098
55°	15778	12077	9842
60°	15152	10878	8577
65°	14544	9522	7325
70°	13705	7974	5862
75°	12640	6322	5582
80°	11036	5605	5096
85°	9304	4909	4729



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.9	4.2
10°-20°	414.6	11.6
20°-30°	596.9	16.7
30°-40°	672.4	18.8
40°-50°	642.3	18.0
50°-60°	525.2	14.7
60°-70°	352.7	9.9
70°-80°	175.9	4.9
80°-90°	45.5	1.3
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°	1160.5	32.5
0°-40°	1832.9	51.3
0°-60°	3000.5	83.9
0°-90°	3574.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3574.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1583	1577	1561	1574	1570	150
15°	1509	1498	1463	1454	1445	426
25°	1374	1344	1284	1256	1238	632
35°	1190	1144	1066	1007	984	744
45°	979	920	821	749	720	755
55°	747	680	572	492	466	667
65°	507	436	332	271	255	502
75°	270	206	135	122	119	286
85°	67	39	35	33	34	78
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2
2.5°	1589.3	1585.6	1580.8	1582.0	1583.2	1584.4	1584.4	1583.2	1579.6	1574.7	1568.6
5°	1583.2	1579.6	1574.7	1574.7	1577.1	1577.1	1577.1	1575.9	1572.3	1567.4	1561.3
7.5°	1571.0	1568.6	1562.5	1563.7	1565.0	1565.0	1565.0	1563.7	1558.9	1552.8	1546.7
10°	1555.2	1551.6	1546.7	1546.7	1547.9	1547.9	1547.9	1545.5	1539.4	1532.1	1523.6
12.5°	1534.6	1530.9	1526.1	1526.1	1526.1	1526.1	1526.1	1522.4	1512.7	1505.4	1498.1
15°	1509.0	1505.4	1500.5	1500.5	1499.3	1498.1	1495.7	1489.6	1481.1	1472.5	1462.8
17.5°	1481.1	1476.2	1470.1	1468.9	1467.7	1466.5	1462.8	1459.2	1447.0	1434.9	1420.3
20°	1448.2	1443.4	1437.3	1436.1	1432.4	1428.8	1426.3	1419.0	1405.7	1391.1	1381.3
22.5°	1411.7	1406.9	1400.8	1398.4	1391.1	1388.6	1385.0	1374.1	1359.5	1346.1	1335.1
25°	1374.1	1368.0	1360.7	1357.0	1348.5	1343.7	1342.4	1326.6	1312.0	1297.4	1284.1
27.5°	1330.3	1325.4	1319.3	1312.0	1303.5	1297.4	1295.0	1280.4	1262.2	1245.2	1233.0
30°	1287.7	1280.4	1274.3	1265.8	1253.7	1247.6	1242.7	1228.1	1212.3	1191.7	1180.7
32.5°	1237.9	1233.0	1225.7	1217.2	1205.0	1200.2	1192.9	1174.6	1154.0	1139.4	1122.3
35°	1190.4	1185.6	1174.6	1166.1	1149.1	1144.2	1136.9	1121.1	1098.0	1081.0	1066.4
37.5°	1138.2	1132.1	1123.6	1111.4	1096.8	1090.7	1081.0	1065.2	1038.4	1021.4	1003.2
40°	1087.1	1078.6	1068.8	1055.5	1040.9	1034.8	1026.3	1003.2	981.3	961.8	946.0
42.5°	1036.0	1026.3	1014.1	1002.0	986.2	977.6	967.9	946.0	921.7	903.5	881.6
45°	978.9	971.6	959.4	944.8	926.6	920.5	909.6	886.4	862.1	842.7	820.8
47.5°	922.9	914.4	902.3	887.7	869.4	860.9	850.0	826.9	802.5	778.2	758.8
50°	865.8	857.3	842.7	828.1	811.1	800.1	790.4	767.3	740.5	718.6	694.3
52.5°	805.0	797.7	785.5	770.9	749.0	740.5	730.8	705.3	679.7	654.2	632.3
55°	746.6	741.7	727.2	712.6	689.5	679.7	670.0	643.3	617.7	592.2	571.5
57.5°	685.8	682.2	667.6	650.5	629.9	620.1	608.0	581.2	556.9	531.4	509.5
60°	625.0	621.4	606.8	589.7	570.3	558.1	544.8	524.1	496.1	473.0	448.7
62.5°	566.6	561.8	549.6	531.4	509.5	497.3	485.2	460.9	435.3	411.0	389.1
65°	507.1	501.0	486.4	468.2	447.5	436.5	424.4	401.3	375.7	352.6	332.0
67.5°	447.5	441.4	425.6	411.0	386.7	375.7	364.8	341.7	317.4	294.3	274.8
70°	386.7	380.6	368.4	349.0	328.3	317.4	306.4	282.1	260.2	243.2	225.0
72.5°	327.1	322.2	310.1	291.8	272.4	261.4	249.3	228.6	209.1	190.9	177.5
75°	269.9	262.7	251.7	234.7	215.2	205.5	197.0	176.3	158.1	145.9	135.0
77.5°	215.2	206.7	194.6	181.2	162.9	153.2	144.7	127.7	115.5	107.0	104.6
80°	158.1	156.9	144.7	130.1	114.3	107.0	98.5	87.6	83.9	82.7	80.3
82.5°	110.7	105.8	96.1	82.7	70.5	65.7	63.2	60.8	58.4	58.4	55.9
85°	66.9	62.0	53.5	42.6	40.1	38.9	37.7	37.7	36.5	35.3	35.3
87.5°	29.2	24.3	18.2	17.0	15.8	15.8	17.0	17.0	17.0	15.8	15.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2	1583.2
2.5°	1571.0	1577.1	1580.8	1582.0	1582.0	1582.0	1583.2	1583.2	1582.0	1580.8
5°	1562.5	1568.6	1571.0	1573.5	1573.5	1573.5	1573.5	1573.5	1572.3	1569.8
7.5°	1549.2	1552.8	1556.4	1555.2	1555.2	1554.0	1552.8	1554.0	1551.6	1551.6
10°	1524.8	1528.5	1530.9	1527.3	1527.3	1528.5	1528.5	1527.3	1523.6	1520.0
12.5°	1496.9	1500.5	1496.9	1498.1	1495.7	1493.2	1492.0	1490.8	1487.1	1484.7
15°	1460.4	1460.4	1458.0	1458.0	1454.3	1449.4	1448.2	1449.4	1444.6	1444.6
17.5°	1420.3	1417.8	1414.2	1411.7	1410.5	1410.5	1405.7	1405.7	1399.6	1398.4
20°	1376.5	1374.1	1370.4	1364.3	1361.9	1363.1	1358.2	1354.6	1350.9	1349.7
22.5°	1330.3	1324.2	1320.6	1314.5	1309.6	1309.6	1306.0	1299.9	1296.2	1292.6
25°	1278.0	1271.9	1264.6	1259.8	1256.1	1250.0	1247.6	1242.7	1239.1	1237.9
27.5°	1224.5	1214.8	1205.0	1200.2	1197.7	1190.4	1186.8	1184.4	1177.1	1175.8
30°	1167.3	1160.0	1147.9	1139.4	1133.3	1134.5	1126.0	1121.1	1117.5	1113.8
32.5°	1112.6	1100.5	1088.3	1077.4	1070.1	1068.8	1060.3	1055.5	1051.8	1048.2
35°	1050.6	1038.4	1023.9	1014.1	1006.8	1003.2	994.7	992.2	986.2	983.7
37.5°	988.6	975.2	960.6	948.5	943.6	935.1	931.4	925.4	920.5	920.5
40°	927.8	912.0	897.4	882.8	876.7	871.9	862.1	857.3	851.2	847.5
42.5°	864.6	846.3	832.9	819.6	811.1	807.4	796.5	790.4	784.3	783.1
45°	801.3	783.1	766.1	752.7	749.0	741.7	730.8	722.3	721.1	719.9
47.5°	736.9	718.6	702.8	688.2	683.4	674.9	667.6	661.5	654.2	650.5
50°	674.9	656.6	639.6	623.8	617.7	610.4	603.1	594.6	592.2	588.5
52.5°	612.9	592.2	573.9	559.3	554.5	548.4	539.9	532.6	528.9	526.5
55°	549.6	528.9	513.1	498.6	492.5	488.8	479.1	473.0	468.2	465.7
57.5°	487.6	466.9	452.3	441.4	432.9	429.2	419.5	413.4	411.0	409.8
60°	429.2	409.8	394.0	383.0	375.7	372.1	364.8	358.7	355.1	353.8
62.5°	370.9	353.8	339.3	328.3	323.4	318.6	312.5	307.6	304.0	304.0
65°	314.9	297.9	284.5	276.0	271.2	268.7	261.4	259.0	255.4	255.4
67.5°	260.2	248.1	238.3	227.4	223.7	223.7	216.4	214.0	211.6	211.6
70°	212.8	201.9	190.9	184.8	181.2	180.0	173.9	170.2	167.8	165.4
72.5°	166.6	156.9	147.1	145.9	145.9	144.7	144.7	142.3	142.3	143.5
75°	127.7	125.2	122.8	122.8	121.6	120.4	120.4	119.2	119.2	119.2
77.5°	102.1	100.9	99.7	98.5	98.5	97.3	96.1	96.1	96.1	96.1
80°	77.8	76.6	76.6	75.4	74.2	75.4	74.2	74.2	73.0	73.0
82.5°	54.7	54.7	54.7	53.5	53.5	53.5	53.5	52.3	52.3	53.5
85°	34.0	34.0	34.0	34.0	32.8	34.0	32.8	32.8	32.8	34.0
87.5°	14.6	15.8	14.6	15.8	15.8	14.6	14.6	14.6	14.6	14.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)