

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: P243397

Luminaire Tested: **S123RDR-H1000D835-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243397
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-H1000D835-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3539.6 lumens
Efficiency: N/A
Efficacy: 112.4 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

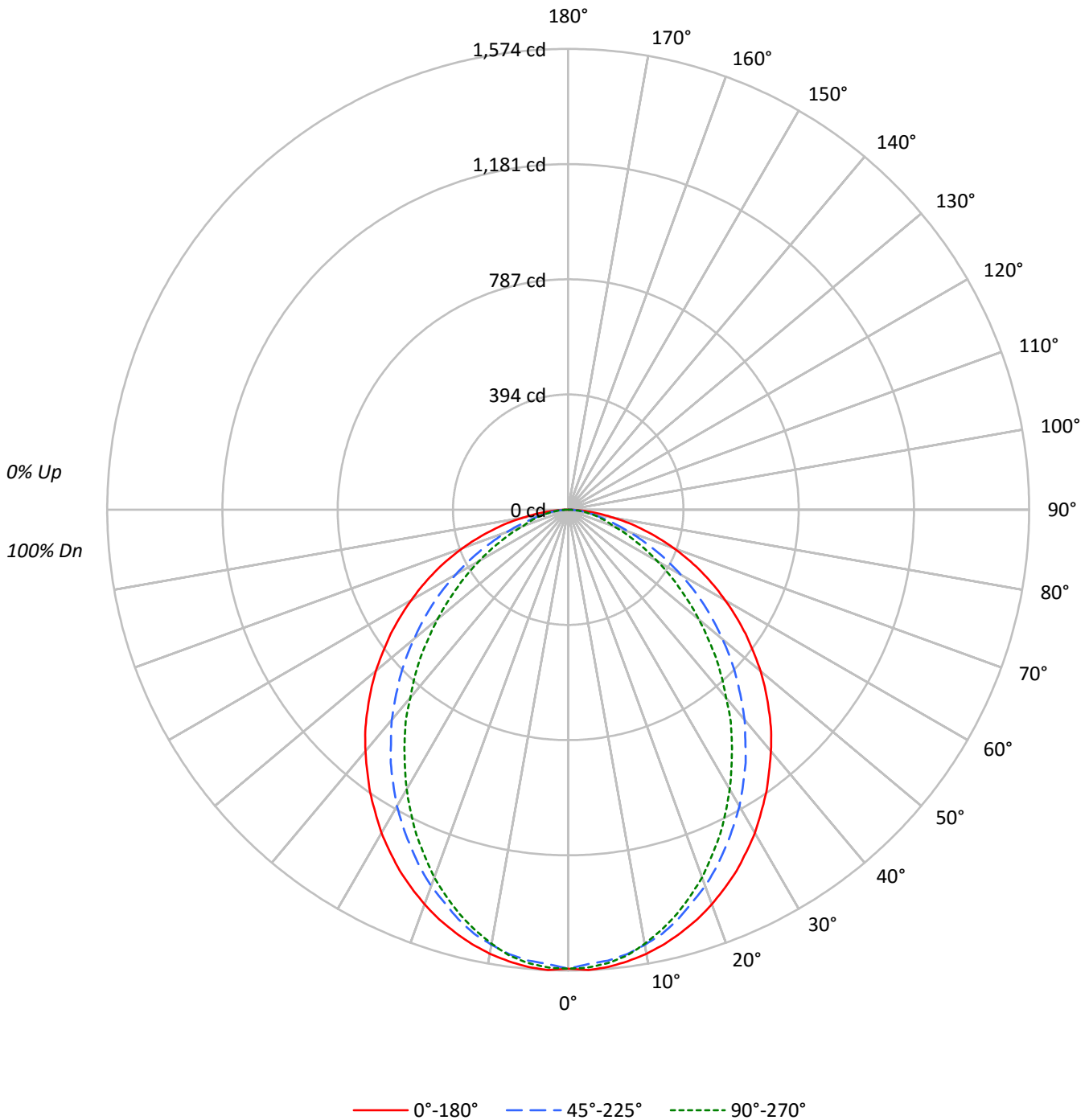
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	19002	19002	19002
5°	19075	18812	18914
10°	18955	18569	18525
15°	18752	18177	17951
20°	18499	17645	17240
25°	18197	17005	16394
30°	17847	16365	15438
35°	17443	15626	14414
40°	17034	14823	13280
45°	16616	13933	12219
50°	16166	12964	10990
55°	15623	11959	9746
60°	15004	10771	8495
65°	14401	9428	7253
70°	13570	7896	5805
75°	12518	6262	5526
80°	10924	5549	5040
85°	9207	4854	4687



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.5	4.2
10°-20°	410.6	11.6
20°-30°	591.1	16.7
30°-40°	665.8	18.8
40°-50°	636.1	18.0
50°-60°	520.1	14.7
60°-70°	349.3	9.9
70°-80°	174.2	4.9
80°-90°	45.0	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°	1149.2	32.5
0°-40°	1815.0	51.3
0°-60°	2971.2	83.9
0°-90°	3539.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3539.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1568	1568	1568	1568	1568	
5°	1568	1562	1546	1558	1554	149
15°	1494	1483	1448	1440	1430	421
25°	1361	1330	1272	1244	1226	626
35°	1179	1133	1056	997	974	737
45°	969	912	813	742	713	748
55°	739	673	566	488	461	660
65°	502	432	329	268	253	497
75°	267	204	134	120	118	283
85°	66	38	35	32	34	77
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°	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7
2.5°	1573.8	1570.1	1565.3	1566.5	1567.7	1568.9	1568.9	1567.7	1564.1	1559.3	1553.3
5°	1567.7	1564.1	1559.3	1559.3	1561.7	1561.7	1561.7	1560.5	1556.9	1552.1	1546.1
7.5°	1555.7	1553.3	1547.3	1548.5	1549.7	1549.7	1549.7	1548.5	1543.7	1537.6	1531.6
10°	1540.0	1536.4	1531.6	1531.6	1532.8	1532.8	1532.8	1530.4	1524.4	1517.2	1508.7
12.5°	1519.6	1516.0	1511.1	1511.1	1511.1	1511.1	1511.1	1507.5	1497.9	1490.7	1483.4
15°	1494.3	1490.7	1485.9	1485.9	1484.7	1483.4	1481.0	1475.0	1466.6	1458.2	1448.5
17.5°	1466.6	1461.8	1455.8	1454.6	1453.3	1452.1	1448.5	1444.9	1432.9	1420.8	1406.4
20°	1434.1	1429.3	1423.2	1422.0	1418.4	1414.8	1412.4	1405.2	1391.9	1377.5	1367.9
22.5°	1398.0	1393.1	1387.1	1384.7	1377.5	1375.1	1371.5	1360.6	1346.2	1332.9	1322.1
25°	1360.6	1354.6	1347.4	1343.8	1335.3	1330.5	1329.3	1313.7	1299.2	1284.8	1271.5
27.5°	1317.3	1312.5	1306.4	1299.2	1290.8	1284.8	1282.4	1267.9	1249.9	1233.0	1221.0
30°	1275.1	1267.9	1261.9	1253.5	1241.4	1235.4	1230.6	1216.1	1200.5	1180.0	1169.2
32.5°	1225.8	1221.0	1213.7	1205.3	1193.3	1188.4	1181.2	1163.2	1142.7	1128.2	1111.4
35°	1178.8	1174.0	1163.2	1154.7	1137.9	1133.1	1125.8	1110.2	1087.3	1070.4	1056.0
37.5°	1127.0	1121.0	1112.6	1100.5	1086.1	1080.1	1070.4	1054.8	1028.3	1011.4	993.4
40°	1076.5	1068.0	1058.4	1045.2	1030.7	1024.7	1016.3	993.4	971.7	952.4	936.8
42.5°	1025.9	1016.3	1004.2	992.2	976.5	968.1	958.5	936.8	912.7	894.6	873.0
45°	969.3	962.1	950.0	935.6	917.5	911.5	900.7	877.8	853.7	834.4	812.8
47.5°	913.9	905.5	893.4	879.0	860.9	852.5	841.7	818.8	794.7	770.6	751.4
50°	857.3	848.9	834.4	820.0	803.1	792.3	782.7	759.8	733.3	711.6	687.5
52.5°	797.1	789.9	777.8	763.4	741.7	733.3	723.7	698.4	673.1	647.8	626.1
55°	739.3	734.5	720.1	705.6	682.7	673.1	663.5	637.0	611.7	586.4	565.9
57.5°	679.1	675.5	661.0	644.2	623.7	614.1	602.0	575.6	551.5	526.2	504.5
60°	618.9	615.3	600.8	584.0	564.7	552.7	539.4	519.0	491.3	468.4	444.3
62.5°	561.1	556.3	544.3	526.2	504.5	492.5	480.4	456.4	431.1	407.0	385.3
65°	502.1	496.1	481.6	463.6	443.1	432.3	420.2	397.4	372.1	349.2	328.7
67.5°	443.1	437.1	421.4	407.0	382.9	372.1	361.2	338.4	314.3	291.4	272.1
70°	382.9	376.9	364.8	345.6	325.1	314.3	303.4	279.4	257.7	240.8	222.8
72.5°	323.9	319.1	307.0	289.0	269.7	258.9	246.8	226.4	207.1	189.0	175.8
75°	267.3	260.1	249.2	232.4	213.1	203.5	195.1	174.6	156.5	144.5	133.7
77.5°	213.1	204.7	192.7	179.4	161.3	151.7	143.3	126.4	114.4	106.0	103.6
80°	156.5	155.3	143.3	128.8	113.2	106.0	97.5	86.7	83.1	81.9	79.5
82.5°	109.6	104.8	95.1	81.9	69.8	65.0	62.6	60.2	57.8	57.8	55.4
85°	66.2	61.4	53.0	42.1	39.7	38.5	37.3	37.3	36.1	34.9	34.9
87.5°	28.9	24.1	18.1	16.9	15.7	15.7	16.9	16.9	16.9	15.7	15.7
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°	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7	1567.7
2.5°	1555.7	1561.7	1565.3	1566.5	1566.5	1566.5	1567.7	1567.7	1566.5	1565.3
5°	1547.3	1553.3	1555.7	1558.1	1558.1	1558.1	1558.1	1558.1	1556.9	1554.5
7.5°	1534.0	1537.6	1541.2	1540.0	1540.0	1538.8	1537.6	1538.8	1536.4	1536.4
10°	1509.9	1513.6	1516.0	1512.3	1512.3	1513.6	1513.6	1512.3	1508.7	1505.1
12.5°	1482.2	1485.9	1482.2	1483.4	1481.0	1478.6	1477.4	1476.2	1472.6	1470.2
15°	1446.1	1446.1	1443.7	1443.7	1440.1	1435.3	1434.1	1435.3	1430.5	1430.5
17.5°	1406.4	1404.0	1400.4	1398.0	1396.8	1396.8	1391.9	1391.9	1385.9	1384.7
20°	1363.0	1360.6	1357.0	1351.0	1348.6	1349.8	1345.0	1341.4	1337.8	1336.5
22.5°	1317.3	1311.3	1307.7	1301.6	1296.8	1296.8	1293.2	1287.2	1283.6	1280.0
25°	1265.5	1259.5	1252.3	1247.4	1243.8	1237.8	1235.4	1230.6	1227.0	1225.8
27.5°	1212.5	1202.9	1193.3	1188.4	1186.0	1178.8	1175.2	1172.8	1165.6	1164.4
30°	1155.9	1148.7	1136.7	1128.2	1122.2	1123.4	1115.0	1110.2	1106.6	1103.0
32.5°	1101.7	1089.7	1077.7	1066.8	1059.6	1058.4	1050.0	1045.2	1041.5	1037.9
35°	1040.3	1028.3	1013.9	1004.2	997.0	993.4	985.0	982.5	976.5	974.1
37.5°	978.9	965.7	951.2	939.2	934.4	926.0	922.3	916.3	911.5	911.5
40°	918.7	903.1	888.6	874.2	868.2	863.3	853.7	848.9	842.9	839.3
42.5°	856.1	838.1	824.8	811.6	803.1	799.5	788.7	782.7	776.6	775.4
45°	793.5	775.4	758.6	745.3	741.7	734.5	723.7	715.2	714.0	712.8
47.5°	729.7	711.6	696.0	681.5	676.7	668.3	661.0	655.0	647.8	644.2
50°	668.3	650.2	633.4	617.7	611.7	604.5	597.2	588.8	586.4	582.8
52.5°	606.9	586.4	568.3	553.9	549.1	543.0	534.6	527.4	523.8	521.4
55°	544.3	523.8	508.1	493.7	487.7	484.0	474.4	468.4	463.6	461.2
57.5°	482.8	462.4	447.9	437.1	428.7	425.0	415.4	409.4	407.0	405.8
60°	425.0	405.8	390.1	379.3	372.1	368.5	361.2	355.2	351.6	350.4
62.5°	367.2	350.4	335.9	325.1	320.3	315.5	309.5	304.6	301.0	301.0
65°	311.9	295.0	281.8	273.3	268.5	266.1	258.9	256.5	252.9	252.9
67.5°	257.7	245.6	236.0	225.2	221.6	221.6	214.3	211.9	209.5	209.5
70°	210.7	199.9	189.0	183.0	179.4	178.2	172.2	168.6	166.2	163.8
72.5°	165.0	155.3	145.7	144.5	144.5	143.3	143.3	140.9	140.9	142.1
75°	126.4	124.0	121.6	121.6	120.4	119.2	119.2	118.0	118.0	118.0
77.5°	101.1	99.9	98.7	97.5	97.5	96.3	95.1	95.1	95.1	95.1
80°	77.1	75.9	75.9	74.7	73.4	74.7	73.4	73.4	72.2	72.2
82.5°	54.2	54.2	54.2	53.0	53.0	53.0	53.0	51.8	51.8	53.0
85°	33.7	33.7	33.7	33.7	32.5	33.7	32.5	32.5	32.5	33.7
87.5°	14.4	15.7	14.4	15.7	15.7	14.4	14.4	14.4	14.4	14.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)