

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: P243412

Luminaire Tested: **S123RDR-H1000D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243412
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-H1000D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3047.6 lumens
Efficiency: N/A
Efficacy: 96.8 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

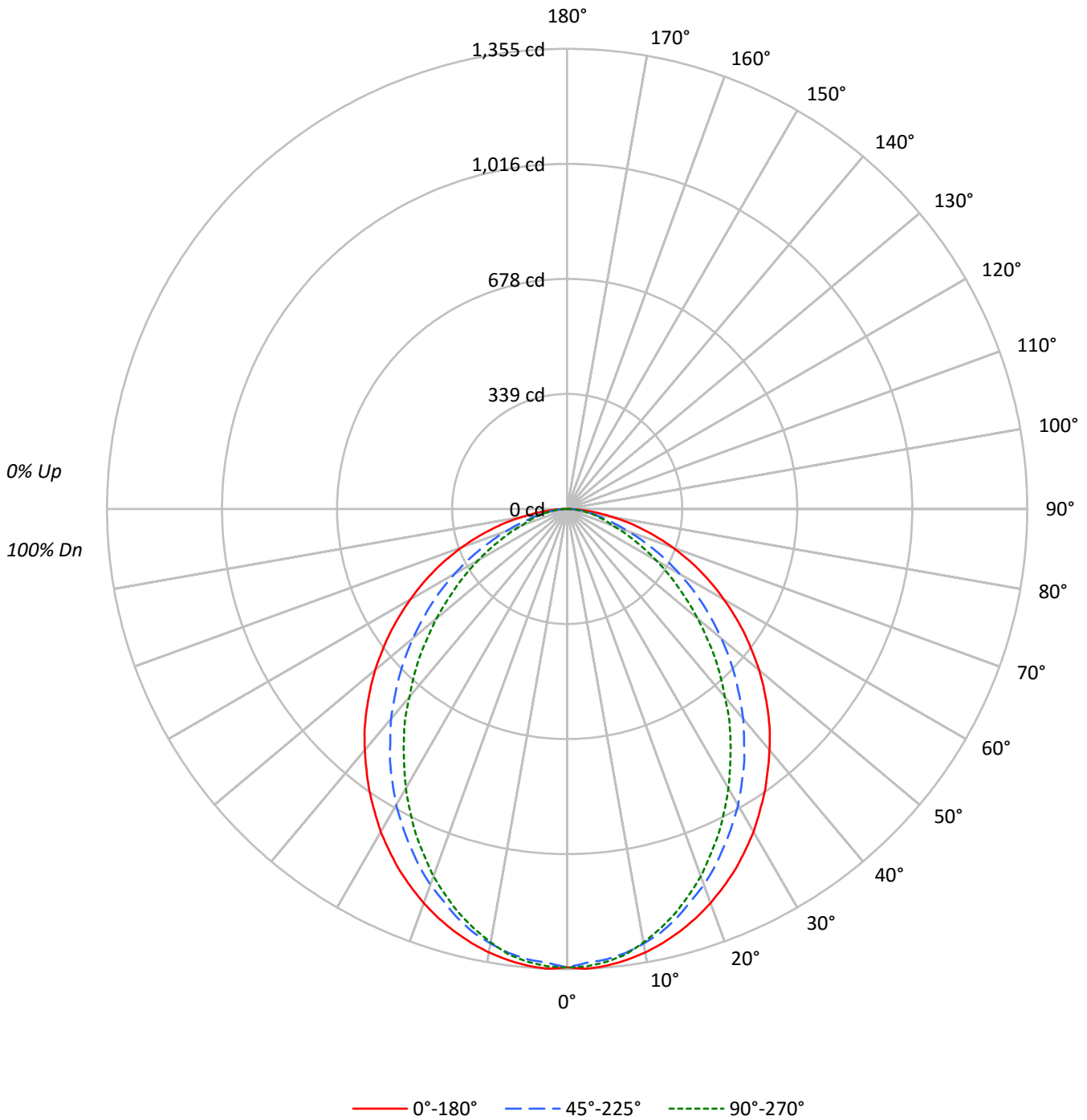
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	16361	16361	16361
5°	16424	16197	16285
10°	16321	15988	15950
15°	16145	15651	15455
20°	15927	15191	14844
25°	15668	14642	14115
30°	15367	14090	13291
35°	15019	13454	12410
40°	14665	12763	11434
45°	14307	11996	10520
50°	13920	11164	9463
55°	13453	10298	8392
60°	12919	9275	7314
65°	12399	8117	6244
70°	11685	6797	4997
75°	10781	5390	4758
80°	9409	4775	4342
85°	7927	4186	4033



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.0	4.2
10°-20°	353.5	11.6
20°-30°	508.9	16.7
30°-40°	573.3	18.8
40°-50°	547.7	18.0
50°-60°	447.8	14.7
60°-70°	300.7	9.9
70°-80°	150.0	4.9
80°-90°	38.8	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°	989.4	32.5
0°-40°	1562.7	51.3
0°-60°	2558.2	83.9
0°-90°	3047.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3047.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1350	1350	1350	1350	1350	
5°	1350	1345	1331	1342	1338	128
15°	1287	1277	1247	1240	1232	363
25°	1172	1146	1095	1071	1055	539
35°	1015	976	909	858	839	634
45°	835	785	700	639	614	644
55°	637	580	487	420	397	569
65°	432	372	283	231	218	428
75°	230	175	115	104	102	244
85°	57	33	30	28	29	66
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°	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8
2.5°	1355.0	1351.9	1347.7	1348.8	1349.8	1350.9	1350.9	1349.8	1346.7	1342.6	1337.4
5°	1349.8	1346.7	1342.6	1342.6	1344.6	1344.6	1344.6	1343.6	1340.5	1336.3	1331.2
7.5°	1339.5	1337.4	1332.2	1333.2	1334.3	1334.3	1334.3	1333.2	1329.1	1323.9	1318.7
10°	1326.0	1322.9	1318.7	1318.7	1319.8	1319.8	1319.8	1317.7	1312.5	1306.3	1299.0
12.5°	1308.4	1305.2	1301.1	1301.1	1301.1	1301.1	1301.1	1298.0	1289.7	1283.5	1277.2
15°	1286.6	1283.5	1279.3	1279.3	1278.3	1277.2	1275.2	1270.0	1262.7	1255.5	1247.2
17.5°	1262.7	1258.6	1253.4	1252.4	1251.3	1250.3	1247.2	1244.1	1233.7	1223.3	1210.9
20°	1234.7	1230.6	1225.4	1224.4	1221.3	1218.2	1216.1	1209.9	1198.5	1186.0	1177.7
22.5°	1203.6	1199.5	1194.3	1192.2	1186.0	1183.9	1180.8	1171.5	1159.1	1147.7	1138.3
25°	1171.5	1166.3	1160.1	1157.0	1149.7	1145.6	1144.5	1131.1	1118.6	1106.2	1094.8
27.5°	1134.2	1130.0	1124.9	1118.6	1111.4	1106.2	1104.1	1091.7	1076.1	1061.6	1051.2
30°	1097.9	1091.7	1086.5	1079.2	1068.9	1063.7	1059.5	1047.1	1033.6	1016.0	1006.7
32.5°	1055.4	1051.2	1045.0	1037.8	1027.4	1023.3	1017.0	1001.5	983.9	971.4	956.9
35°	1015.0	1010.8	1001.5	994.2	979.7	975.6	969.3	955.9	936.2	921.7	909.2
37.5°	970.4	965.2	957.9	947.6	935.1	929.9	921.7	908.2	885.4	870.9	855.3
40°	926.8	919.6	911.3	899.9	887.4	882.3	875.0	855.3	836.6	820.1	806.6
42.5°	883.3	875.0	864.6	854.3	840.8	833.5	825.2	806.6	785.8	770.3	751.6
45°	834.6	828.3	818.0	805.5	790.0	784.8	775.5	755.8	735.0	718.5	699.8
47.5°	786.9	779.6	769.3	756.8	741.3	734.0	724.7	705.0	684.2	663.5	646.9
50°	738.2	730.9	718.5	706.0	691.5	682.2	673.9	654.2	631.4	612.7	592.0
52.5°	686.3	680.1	669.7	657.3	638.6	631.4	623.1	601.3	579.5	557.8	539.1
55°	636.6	632.4	620.0	607.5	587.8	579.5	571.2	548.4	526.7	504.9	487.3
57.5°	584.7	581.6	569.2	554.6	537.0	528.7	518.4	495.6	474.8	453.1	434.4
60°	532.9	529.8	517.3	502.8	486.2	475.9	464.5	446.8	423.0	403.3	382.6
62.5°	483.1	479.0	468.6	453.1	434.4	424.0	413.7	392.9	371.1	350.4	331.8
65°	432.3	427.1	414.7	399.1	381.5	372.2	361.8	342.1	320.3	300.7	283.0
67.5°	381.5	376.3	362.9	350.4	329.7	320.3	311.0	291.3	270.6	250.9	234.3
70°	329.7	324.5	314.1	297.5	279.9	270.6	261.3	240.5	221.9	207.3	191.8
72.5°	278.9	274.7	264.4	248.8	232.2	222.9	212.5	194.9	178.3	162.8	151.4
75°	230.2	223.9	214.6	200.1	183.5	175.2	167.9	150.3	134.8	124.4	115.1
77.5°	183.5	176.2	165.9	154.5	138.9	130.6	123.4	108.9	98.5	91.2	89.2
80°	134.8	133.7	123.4	110.9	97.5	91.2	84.0	74.6	71.5	70.5	68.4
82.5°	94.3	90.2	81.9	70.5	60.1	56.0	53.9	51.8	49.8	49.8	47.7
85°	57.0	52.9	45.6	36.3	34.2	33.2	32.1	32.1	31.1	30.1	30.1
87.5°	24.9	20.7	15.6	14.5	13.5	13.5	14.5	14.5	14.5	13.5	13.5
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°	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8	1349.8
2.5°	1339.5	1344.6	1347.7	1348.8	1348.8	1348.8	1349.8	1349.8	1348.8	1347.7
5°	1332.2	1337.4	1339.5	1341.5	1341.5	1341.5	1341.5	1341.5	1340.5	1338.4
7.5°	1320.8	1323.9	1327.0	1326.0	1326.0	1324.9	1323.9	1324.9	1322.9	1322.9
10°	1300.1	1303.2	1305.2	1302.1	1302.1	1303.2	1303.2	1302.1	1299.0	1295.9
12.5°	1276.2	1279.3	1276.2	1277.2	1275.2	1273.1	1272.1	1271.0	1267.9	1265.8
15°	1245.1	1245.1	1243.0	1243.0	1239.9	1235.8	1234.7	1235.8	1231.6	1231.6
17.5°	1210.9	1208.8	1205.7	1203.6	1202.6	1202.6	1198.5	1198.5	1193.3	1192.2
20°	1173.6	1171.5	1168.4	1163.2	1161.1	1162.2	1158.0	1154.9	1151.8	1150.8
22.5°	1134.2	1129.0	1125.9	1120.7	1116.6	1116.6	1113.4	1108.3	1105.2	1102.0
25°	1089.6	1084.4	1078.2	1074.1	1070.9	1065.8	1063.7	1059.5	1056.4	1055.4
27.5°	1044.0	1035.7	1027.4	1023.3	1021.2	1015.0	1011.8	1009.8	1003.6	1002.5
30°	995.3	989.0	978.7	971.4	966.2	967.3	960.0	955.9	952.8	949.6
32.5°	948.6	938.2	927.9	918.5	912.3	911.3	904.0	899.9	896.8	893.7
35°	895.7	885.4	872.9	864.6	858.4	855.3	848.0	846.0	840.8	838.7
37.5°	842.9	831.5	819.0	808.6	804.5	797.2	794.1	789.0	784.8	784.8
40°	791.0	777.5	765.1	752.7	747.5	743.3	735.0	730.9	725.7	722.6
42.5°	737.1	721.6	710.2	698.8	691.5	688.4	679.1	673.9	668.7	667.7
45°	683.2	667.7	653.1	641.7	638.6	632.4	623.1	615.8	614.8	613.7
47.5°	628.3	612.7	599.2	586.8	582.6	575.4	569.2	564.0	557.8	554.6
50°	575.4	559.8	545.3	531.8	526.7	520.4	514.2	507.0	504.9	501.8
52.5°	522.5	504.9	489.3	476.9	472.7	467.6	460.3	454.1	451.0	448.9
55°	468.6	451.0	437.5	425.1	419.9	416.8	408.5	403.3	399.1	397.1
57.5°	415.7	398.1	385.7	376.3	369.1	366.0	357.7	352.5	350.4	349.4
60°	366.0	349.4	335.9	326.6	320.3	317.2	311.0	305.8	302.7	301.7
62.5°	316.2	301.7	289.2	279.9	275.8	271.6	266.4	262.3	259.2	259.2
65°	268.5	254.0	242.6	235.3	231.2	229.1	222.9	220.8	217.7	217.7
67.5°	221.9	211.5	203.2	193.9	190.8	190.8	184.5	182.5	180.4	180.4
70°	181.4	172.1	162.8	157.6	154.5	153.4	148.3	145.1	143.1	141.0
72.5°	142.0	133.7	125.4	124.4	124.4	123.4	123.4	121.3	121.3	122.3
75°	108.9	106.8	104.7	104.7	103.7	102.6	102.6	101.6	101.6	101.6
77.5°	87.1	86.0	85.0	84.0	84.0	82.9	81.9	81.9	81.9	81.9
80°	66.4	65.3	65.3	64.3	63.2	64.3	63.2	63.2	62.2	62.2
82.5°	46.7	46.7	46.7	45.6	45.6	45.6	45.6	44.6	44.6	45.6
85°	29.0	29.0	29.0	29.0	28.0	29.0	28.0	28.0	28.0	29.0
87.5°	12.4	13.5	12.4	13.5	13.5	12.4	12.4	12.4	12.4	12.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)