

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: P243393

Luminaire Tested: **S123RDR-H1000D830-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243393
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-H1000D830-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3336.3 lumens
Efficiency: N/A
Efficacy: 105.9 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

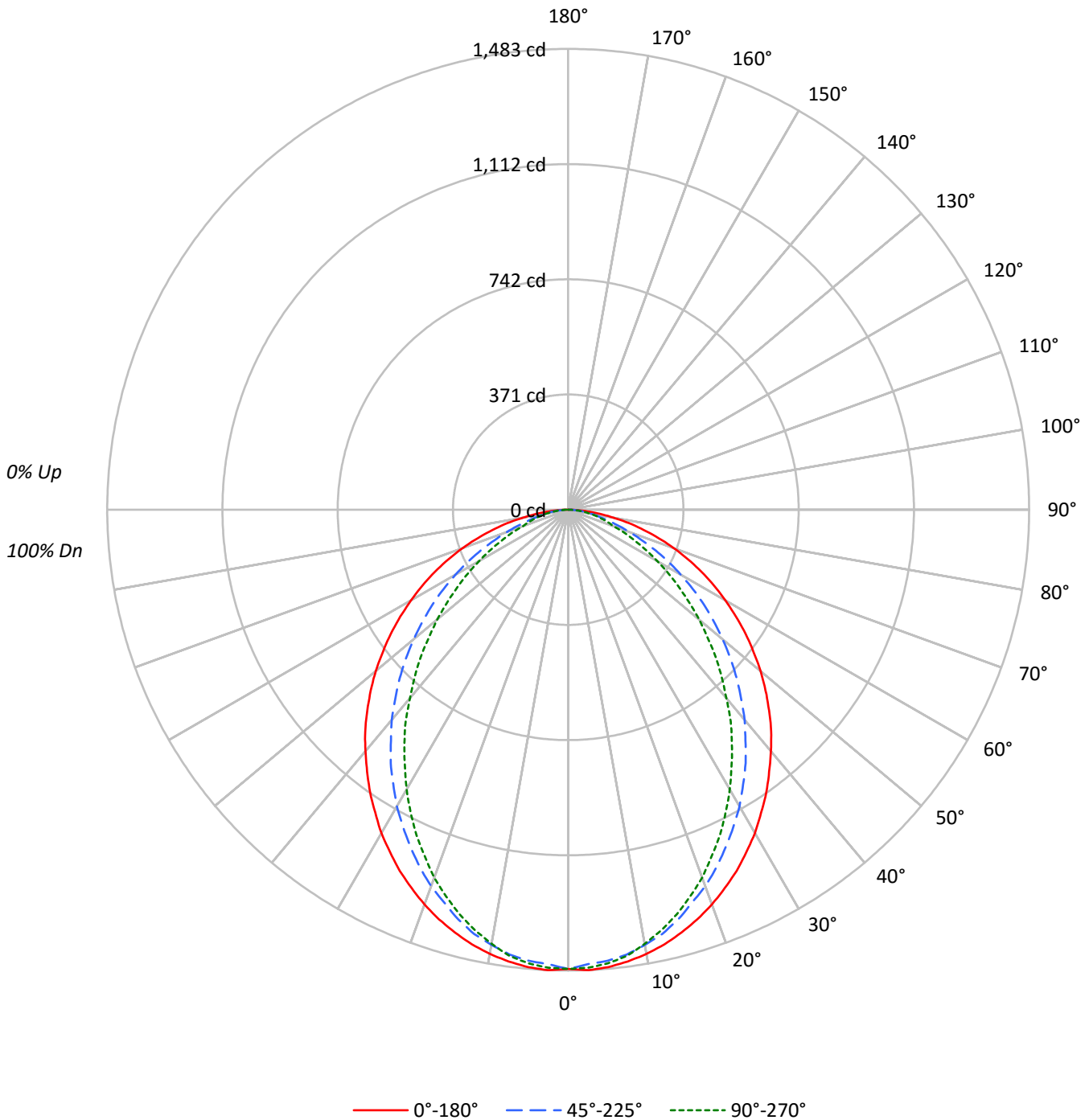
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	17912	17912	17912
5°	17980	17731	17828
10°	17867	17502	17460
15°	17674	17133	16920
20°	17436	16631	16250
25°	17153	16029	15451
30°	16822	15424	14551
35°	16441	14728	13585
40°	16054	13972	12516
45°	15661	13132	11518
50°	15239	12220	10358
55°	14725	11272	9186
60°	14141	10153	8007
65°	13575	8885	6835
70°	12790	7442	5468
75°	11802	5901	5208
80°	10296	5228	4754
85°	8678	4576	4423



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.0	4.2
10°-20°	387.0	11.6
20°-30°	557.1	16.7
30°-40°	627.6	18.8
40°-50°	599.5	18.0
50°-60°	490.2	14.7
60°-70°	329.2	9.9
70°-80°	164.2	4.9
80°-90°	42.4	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°	1083.1	32.5
0°-40°	1710.7	51.3
0°-60°	2800.4	83.9
0°-90°	3336.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3336.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1478	1478	1478	1478	1478	
5°	1478	1472	1457	1469	1465	140
15°	1408	1398	1365	1357	1348	397
25°	1282	1254	1198	1172	1155	590
35°	1111	1068	995	940	918	695
45°	914	859	766	699	672	705
55°	697	634	533	460	435	622
65°	473	407	310	253	238	468
75°	252	192	126	114	111	267
85°	62	36	33	31	32	73
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°	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7
2.5°	1483.3	1479.9	1475.4	1476.5	1477.7	1478.8	1478.8	1477.7	1474.3	1469.7	1464.0
5°	1477.7	1474.3	1469.7	1469.7	1472.0	1472.0	1472.0	1470.8	1467.4	1462.9	1457.2
7.5°	1466.3	1464.0	1458.4	1459.5	1460.6	1460.6	1460.6	1459.5	1455.0	1449.3	1443.6
10°	1451.6	1448.1	1443.6	1443.6	1444.7	1444.7	1444.7	1442.5	1436.8	1430.0	1422.0
12.5°	1432.3	1428.9	1424.3	1424.3	1424.3	1424.3	1424.3	1420.9	1411.8	1405.0	1398.2
15°	1408.4	1405.0	1400.5	1400.5	1399.3	1398.2	1395.9	1390.3	1382.3	1374.4	1365.3
17.5°	1382.3	1377.8	1372.1	1371.0	1369.8	1368.7	1365.3	1361.9	1350.5	1339.2	1325.6
20°	1351.7	1347.1	1341.5	1340.3	1336.9	1333.5	1331.3	1324.4	1312.0	1298.3	1289.3
22.5°	1317.6	1313.1	1307.4	1305.2	1298.3	1296.1	1292.7	1282.5	1268.8	1256.3	1246.1
25°	1282.5	1276.8	1270.0	1266.6	1258.6	1254.1	1252.9	1238.2	1224.6	1211.0	1198.5
27.5°	1241.6	1237.1	1231.4	1224.6	1216.6	1211.0	1208.7	1195.1	1178.0	1162.2	1150.8
30°	1201.9	1195.1	1189.4	1181.4	1170.1	1164.4	1159.9	1146.3	1131.5	1112.2	1102.0
32.5°	1155.3	1150.8	1144.0	1136.0	1124.7	1120.2	1113.4	1096.3	1077.0	1063.4	1047.5
35°	1111.1	1106.5	1096.3	1088.4	1072.5	1068.0	1061.1	1046.4	1024.8	1008.9	995.3
37.5°	1062.3	1056.6	1048.7	1037.3	1023.7	1018.0	1008.9	994.2	969.2	953.3	936.3
40°	1014.6	1006.7	997.6	985.1	971.5	965.8	957.9	936.3	915.9	897.7	883.0
42.5°	966.9	957.9	946.5	935.2	920.4	912.5	903.4	883.0	860.3	843.2	822.8
45°	913.6	906.8	895.4	881.8	864.8	859.1	848.9	827.4	804.7	786.5	766.1
47.5°	861.4	853.5	842.1	828.5	811.5	803.5	793.3	771.7	749.0	726.3	708.2
50°	808.1	800.1	786.5	772.9	757.0	746.8	737.7	716.1	691.2	670.7	648.0
52.5°	751.3	744.5	733.2	719.5	699.1	691.2	682.1	658.2	634.4	610.6	590.2
55°	696.8	692.3	678.7	665.1	643.5	634.4	625.3	600.4	576.5	552.7	533.4
57.5°	640.1	636.7	623.1	607.2	587.9	578.8	567.5	542.5	519.8	496.0	475.5
60°	583.3	579.9	566.3	550.4	532.3	520.9	508.4	489.1	463.0	441.5	418.8
62.5°	528.9	524.3	513.0	496.0	475.5	464.2	452.8	430.1	406.3	383.6	363.2
65°	473.3	467.6	454.0	436.9	417.6	407.4	396.1	374.5	350.7	329.1	309.8
67.5°	417.6	412.0	397.2	383.6	360.9	350.7	340.5	318.9	296.2	274.6	256.5
70°	360.9	355.2	343.9	325.7	306.4	296.2	286.0	263.3	242.9	227.0	210.0
72.5°	305.3	300.8	289.4	272.4	254.2	244.0	232.7	213.4	195.2	178.2	165.7
75°	252.0	245.1	234.9	219.0	200.9	191.8	183.9	164.6	147.5	136.2	126.0
77.5°	200.9	192.9	181.6	169.1	152.1	143.0	135.1	119.2	107.8	99.9	97.6
80°	147.5	146.4	135.1	121.4	106.7	99.9	91.9	81.7	78.3	77.2	74.9
82.5°	103.3	98.7	89.7	77.2	65.8	61.3	59.0	56.7	54.5	54.5	52.2
85°	62.4	57.9	49.9	39.7	37.5	36.3	35.2	35.2	34.0	32.9	32.9
87.5°	27.2	22.7	17.0	15.9	14.8	14.8	15.9	15.9	15.9	14.8	14.8
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°	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7	1477.7
2.5°	1466.3	1472.0	1475.4	1476.5	1476.5	1476.5	1477.7	1477.7	1476.5	1475.4
5°	1458.4	1464.0	1466.3	1468.6	1468.6	1468.6	1468.6	1468.6	1467.4	1465.2
7.5°	1445.9	1449.3	1452.7	1451.6	1451.6	1450.4	1449.3	1450.4	1448.1	1448.1
10°	1423.2	1426.6	1428.9	1425.5	1425.5	1426.6	1426.6	1425.5	1422.0	1418.6
12.5°	1397.1	1400.5	1397.1	1398.2	1395.9	1393.7	1392.5	1391.4	1388.0	1385.7
15°	1363.0	1363.0	1360.8	1360.8	1357.4	1352.8	1351.7	1352.8	1348.3	1348.3
17.5°	1325.6	1323.3	1319.9	1317.6	1316.5	1316.5	1312.0	1312.0	1306.3	1305.2
20°	1284.7	1282.5	1279.0	1273.4	1271.1	1272.2	1267.7	1264.3	1260.9	1259.8
22.5°	1241.6	1235.9	1232.5	1226.8	1222.3	1222.3	1218.9	1213.2	1209.8	1206.4
25°	1192.8	1187.1	1180.3	1175.8	1172.4	1166.7	1164.4	1159.9	1156.5	1155.3
27.5°	1142.9	1133.8	1124.7	1120.2	1117.9	1111.1	1107.7	1105.4	1098.6	1097.5
30°	1089.5	1082.7	1071.4	1063.4	1057.7	1058.9	1050.9	1046.4	1043.0	1039.6
32.5°	1038.4	1027.1	1015.7	1005.5	998.7	997.6	989.6	985.1	981.7	978.3
35°	980.6	969.2	955.6	946.5	939.7	936.3	928.4	926.1	920.4	918.1
37.5°	922.7	910.2	896.6	885.2	880.7	872.7	869.3	863.7	859.1	859.1
40°	865.9	851.2	837.6	823.9	818.3	813.7	804.7	800.1	794.4	791.0
42.5°	806.9	789.9	777.4	764.9	757.0	753.6	743.4	737.7	732.0	730.9
45°	747.9	730.9	715.0	702.5	699.1	692.3	682.1	674.1	673.0	671.9
47.5°	687.8	670.7	656.0	642.4	637.8	629.9	623.1	617.4	610.6	607.2
50°	629.9	612.9	597.0	582.2	576.5	569.7	562.9	555.0	552.7	549.3
52.5°	572.0	552.7	535.7	522.1	517.5	511.8	503.9	497.1	493.7	491.4
55°	513.0	493.7	478.9	465.3	459.6	456.2	447.2	441.5	436.9	434.7
57.5°	455.1	435.8	422.2	412.0	404.0	400.6	391.5	385.9	383.6	382.5
60°	400.6	382.5	367.7	357.5	350.7	347.3	340.5	334.8	331.4	330.3
62.5°	346.1	330.3	316.6	306.4	301.9	297.3	291.7	287.1	283.7	283.7
65°	293.9	278.1	265.6	257.6	253.1	250.8	244.0	241.7	238.3	238.3
67.5°	242.9	231.5	222.4	212.2	208.8	208.8	202.0	199.7	197.5	197.5
70°	198.6	188.4	178.2	172.5	169.1	168.0	162.3	158.9	156.6	154.3
72.5°	155.5	146.4	137.3	136.2	136.2	135.1	135.1	132.8	132.8	133.9
75°	119.2	116.9	114.6	114.6	113.5	112.4	112.4	111.2	111.2	111.2
77.5°	95.3	94.2	93.1	91.9	91.9	90.8	89.7	89.7	89.7	89.7
80°	72.6	71.5	71.5	70.4	69.2	70.4	69.2	69.2	68.1	68.1
82.5°	51.1	51.1	51.1	49.9	49.9	49.9	49.9	48.8	48.8	49.9
85°	31.8	31.8	31.8	31.8	30.6	31.8	30.6	30.6	30.6	31.8
87.5°	13.6	14.8	13.6	14.8	14.8	13.6	13.6	13.6	13.6	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)