

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: P243408

Luminaire Tested: **S123RDR-H1165D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243408
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-H1165D930-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3371.2 lumens
Efficiency: N/A
Efficacy: 89.4 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

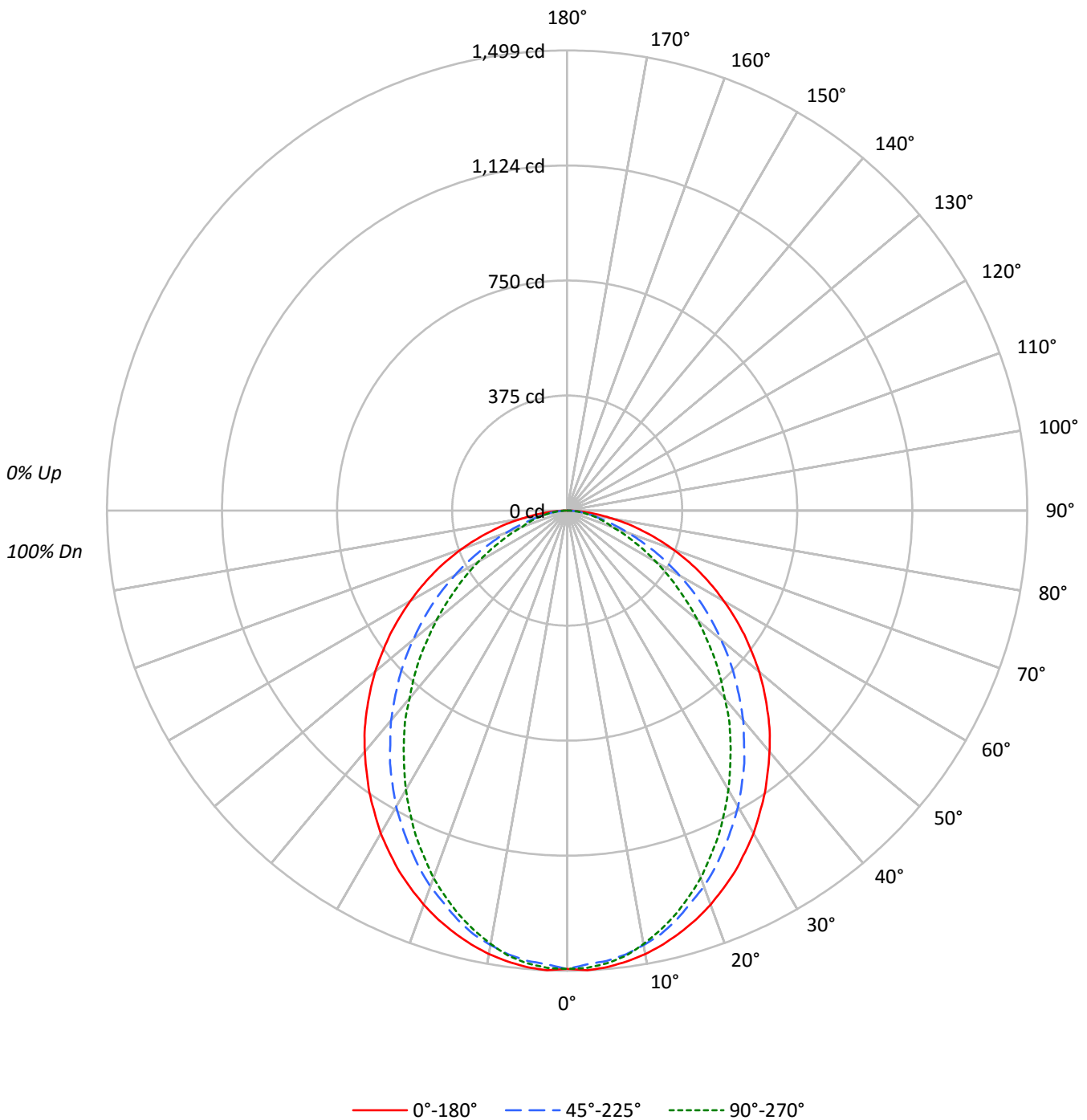
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					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°	18098	18098	18098
5°	18167	17917	18014
10°	18054	17687	17644
15°	17859	17312	17097
20°	17619	16805	16421
25°	17332	16196	15614
30°	16999	15586	14703
35°	16613	14883	13729
40°	16223	14117	12647
45°	15825	13270	11638
50°	15397	12348	10468
55°	14880	11391	9281
60°	14291	10259	8090
65°	13715	8980	6906
70°	12925	7520	5529
75°	11924	5962	5264
80°	10408	5284	4802
85°	8776	4631	4464



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	4.2
10°-20°	391.1	11.6
20°-30°	563.0	16.7
30°-40°	634.2	18.8
40°-50°	605.8	18.0
50°-60°	495.4	14.7
60°-70°	332.6	9.9
70°-80°	165.9	4.9
80°-90°	42.9	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°	1094.5	32.5
0°-40°	1728.6	51.3
0°-60°	2829.8	83.9
0°-90°	3371.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3371.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1493	1493	1493	1493	1493	
5°	1493	1487	1472	1484	1480	142
15°	1423	1413	1380	1372	1362	401
25°	1296	1267	1211	1185	1168	596
35°	1123	1079	1006	950	928	702
45°	923	868	774	706	679	713
55°	704	641	539	464	439	629
65°	478	412	313	256	241	473
75°	255	194	127	115	112	270
85°	63	37	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°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1
2.5°	1498.9	1495.4	1490.9	1492.0	1493.1	1494.3	1494.3	1493.1	1489.7	1485.1	1479.4
5°	1493.1	1489.7	1485.1	1485.1	1487.4	1487.4	1487.4	1486.3	1482.8	1478.2	1472.5
7.5°	1481.7	1479.4	1473.7	1474.8	1475.9	1475.9	1475.9	1474.8	1470.2	1464.5	1458.7
10°	1466.8	1463.3	1458.7	1458.7	1459.9	1459.9	1459.9	1457.6	1451.9	1445.0	1437.0
12.5°	1447.3	1443.8	1439.2	1439.2	1439.2	1439.2	1439.2	1435.8	1426.6	1419.8	1412.9
15°	1423.2	1419.8	1415.2	1415.2	1414.0	1412.9	1410.6	1404.8	1396.8	1388.8	1379.6
17.5°	1396.8	1392.2	1386.5	1385.3	1384.2	1383.1	1379.6	1376.2	1364.7	1353.2	1339.5
20°	1365.9	1361.3	1355.5	1354.4	1350.9	1347.5	1345.2	1338.3	1325.7	1312.0	1302.8
22.5°	1331.4	1326.9	1321.1	1318.8	1312.0	1309.7	1306.2	1295.9	1282.1	1269.5	1259.2
25°	1295.9	1290.2	1283.3	1279.8	1271.8	1267.2	1266.1	1251.2	1237.4	1223.6	1211.0
27.5°	1254.6	1250.0	1244.3	1237.4	1229.4	1223.6	1221.4	1207.6	1190.4	1174.3	1162.9
30°	1214.5	1207.6	1201.9	1193.8	1182.4	1176.6	1172.0	1158.3	1143.4	1123.9	1113.6
32.5°	1167.5	1162.9	1156.0	1148.0	1136.5	1131.9	1125.0	1107.8	1088.3	1074.6	1058.5
35°	1122.7	1118.1	1107.8	1099.8	1083.7	1079.2	1072.3	1057.4	1035.6	1019.5	1005.8
37.5°	1073.4	1067.7	1059.7	1048.2	1034.4	1028.7	1019.5	1004.6	979.4	963.3	946.1
40°	1025.3	1017.2	1008.0	995.4	981.7	975.9	967.9	946.1	925.5	907.1	892.2
42.5°	977.1	967.9	956.4	945.0	930.1	922.0	912.9	892.2	869.3	852.1	831.4
45°	923.2	916.3	904.8	891.1	873.9	868.1	857.8	836.0	813.1	794.7	774.1
47.5°	870.4	862.4	850.9	837.2	820.0	811.9	801.6	779.8	756.9	734.0	715.6
50°	816.5	808.5	794.7	781.0	764.9	754.6	745.4	723.6	698.4	677.8	654.8
52.5°	759.2	752.3	740.8	727.1	706.4	698.4	689.2	665.2	641.1	617.0	596.3
55°	704.1	699.6	685.8	672.0	650.2	641.1	631.9	606.7	582.6	558.5	539.0
57.5°	646.8	643.4	629.6	613.5	594.0	584.9	573.4	548.2	525.2	501.2	480.5
60°	589.5	586.0	572.3	556.2	537.9	526.4	513.8	494.3	467.9	446.1	423.2
62.5°	534.4	529.8	518.4	501.2	480.5	469.0	457.6	434.6	410.6	387.6	367.0
65°	478.2	472.5	458.7	441.5	422.0	411.7	400.2	378.4	354.4	332.6	313.1
67.5°	422.0	416.3	401.4	387.6	364.7	354.4	344.0	322.3	299.3	277.5	259.2
70°	364.7	359.0	347.5	329.1	309.6	299.3	289.0	266.1	245.4	229.4	212.2
72.5°	308.5	303.9	292.4	275.2	256.9	246.6	235.1	215.6	197.3	180.0	167.4
75°	254.6	247.7	237.4	221.3	203.0	193.8	185.8	166.3	149.1	137.6	127.3
77.5°	203.0	195.0	183.5	170.9	153.7	144.5	136.5	120.4	108.9	100.9	98.6
80°	149.1	147.9	136.5	122.7	107.8	100.9	92.9	82.6	79.1	78.0	75.7
82.5°	104.4	99.8	90.6	78.0	66.5	61.9	59.6	57.3	55.0	55.0	52.8
85°	63.1	58.5	50.5	40.1	37.8	36.7	35.6	35.6	34.4	33.3	33.3
87.5°	27.5	22.9	17.2	16.1	14.9	14.9	16.1	16.1	16.1	14.9	14.9
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°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1
2.5°	1481.7	1487.4	1490.9	1492.0	1492.0	1492.0	1493.1	1493.1	1492.0	1490.9
5°	1473.7	1479.4	1481.7	1484.0	1484.0	1484.0	1484.0	1484.0	1482.8	1480.5
7.5°	1461.0	1464.5	1467.9	1466.8	1466.8	1465.6	1464.5	1465.6	1463.3	1463.3
10°	1438.1	1441.5	1443.8	1440.4	1440.4	1441.5	1441.5	1440.4	1437.0	1433.5
12.5°	1411.7	1415.2	1411.7	1412.9	1410.6	1408.3	1407.1	1406.0	1402.6	1400.3
15°	1377.3	1377.3	1375.0	1375.0	1371.6	1367.0	1365.9	1367.0	1362.4	1362.4
17.5°	1339.5	1337.2	1333.7	1331.4	1330.3	1330.3	1325.7	1325.7	1320.0	1318.8
20°	1298.2	1295.9	1292.5	1286.7	1284.4	1285.6	1281.0	1277.5	1274.1	1273.0
22.5°	1254.6	1248.9	1245.4	1239.7	1235.1	1235.1	1231.7	1225.9	1222.5	1219.1
25°	1205.3	1199.6	1192.7	1188.1	1184.7	1178.9	1176.6	1172.0	1168.6	1167.5
27.5°	1154.8	1145.7	1136.5	1131.9	1129.6	1122.7	1119.3	1117.0	1110.1	1109.0
30°	1100.9	1094.1	1082.6	1074.6	1068.8	1070.0	1061.9	1057.4	1053.9	1050.5
32.5°	1049.3	1037.9	1026.4	1016.1	1009.2	1008.0	1000.0	995.4	992.0	988.6
35°	990.8	979.4	965.6	956.4	949.6	946.1	938.1	935.8	930.1	927.8
37.5°	932.4	919.7	906.0	894.5	889.9	881.9	878.5	872.7	868.1	868.1
40°	875.0	860.1	846.3	832.6	826.9	822.3	813.1	808.5	802.8	799.3
42.5°	815.4	798.2	785.6	773.0	764.9	761.5	751.2	745.4	739.7	738.5
45°	755.7	738.5	722.5	709.9	706.4	699.6	689.2	681.2	680.1	678.9
47.5°	695.0	677.8	662.9	649.1	644.5	636.5	629.6	623.9	617.0	613.5
50°	636.5	619.3	603.2	588.3	582.6	575.7	568.8	560.8	558.5	555.1
52.5°	578.0	558.5	541.3	527.5	522.9	517.2	509.2	502.3	498.9	496.6
55°	518.4	498.9	484.0	470.2	464.5	461.0	451.8	446.1	441.5	439.2
57.5°	459.9	440.4	426.6	416.3	408.3	404.8	395.7	389.9	387.6	386.5
60°	404.8	386.5	371.6	361.2	354.4	350.9	344.0	338.3	334.9	333.7
62.5°	349.8	333.7	320.0	309.6	305.1	300.5	294.7	290.1	286.7	286.7
65°	297.0	281.0	268.4	260.3	255.7	253.4	246.6	244.3	240.8	240.8
67.5°	245.4	233.9	224.8	214.5	211.0	211.0	204.1	201.8	199.5	199.5
70°	200.7	190.4	180.0	174.3	170.9	169.7	164.0	160.6	158.3	156.0
72.5°	157.1	147.9	138.8	137.6	137.6	136.5	136.5	134.2	134.2	135.3
75°	120.4	118.1	115.8	115.8	114.7	113.5	113.5	112.4	112.4	112.4
77.5°	96.3	95.2	94.0	92.9	92.9	91.7	90.6	90.6	90.6	90.6
80°	73.4	72.2	72.2	71.1	70.0	71.1	70.0	70.0	68.8	68.8
82.5°	51.6	51.6	51.6	50.5	50.5	50.5	50.5	49.3	49.3	50.5
85°	32.1	32.1	32.1	32.1	31.0	32.1	31.0	31.0	31.0	32.1
87.5°	13.8	14.9	13.8	14.9	14.9	13.8	13.8	13.8	13.8	13.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)