

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: P243407

Luminaire Tested: **S123RDR-H1000D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243407
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-H1000D930-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: 2885.9 lumens
Efficiency: N/A
Efficacy: 91.6 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

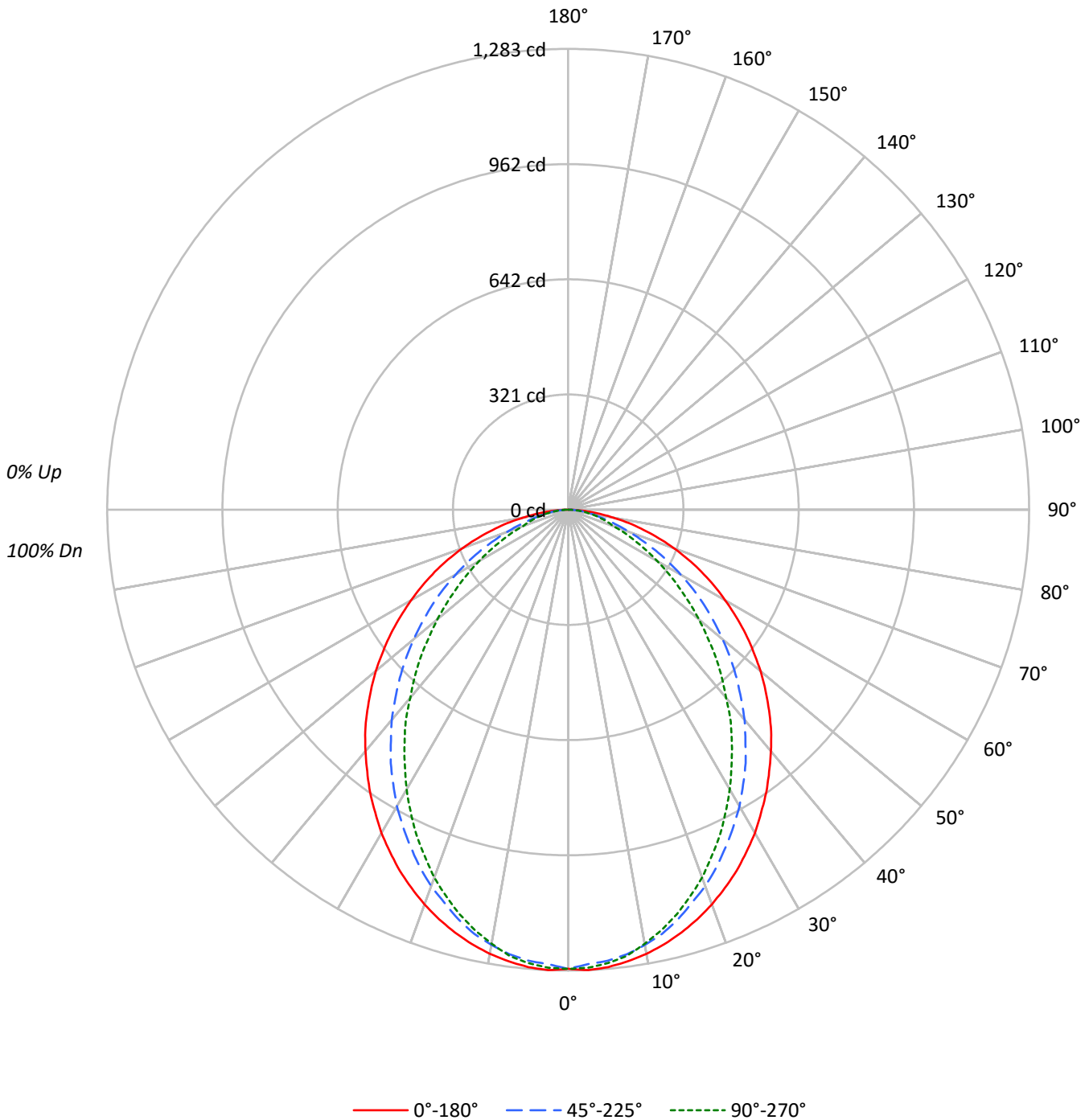
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15493	15493	15493
5°	15553	15337	15421
10°	15454	15140	15103
15°	15288	14820	14636
20°	15082	14385	14056
25°	14836	13865	13366
30°	14551	13341	12586
35°	14222	12740	11752
40°	13886	12086	10826
45°	13547	11358	9963
50°	13181	10571	8959
55°	12739	9751	7946
60°	12233	8781	6926
65°	11742	7687	5914
70°	11064	6436	4731
75°	10205	5105	4505
80°	8907	4523	4111
85°	7510	3964	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.2	4.2
10°-20°	334.8	11.6
20°-30°	481.9	16.7
30°-40°	542.8	18.8
40°-50°	518.6	18.0
50°-60°	424.0	14.7
60°-70°	284.7	9.9
70°-80°	142.0	4.9
80°-90°	36.7	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°	936.9	32.5
0°-40°	1479.8	51.3
0°-60°	2422.4	83.9
0°-90°	2885.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2885.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1278	1278	1278	1278	1278	
5°	1278	1273	1260	1270	1267	121
15°	1218	1210	1181	1174	1166	344
25°	1109	1085	1037	1014	999	511
35°	961	924	861	813	794	601
45°	790	743	663	605	581	610
55°	603	549	461	398	376	538
65°	409	352	268	219	206	405
75°	218	166	109	98	96	231
85°	54	31	28	26	28	63
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°	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2
2.5°	1283.1	1280.1	1276.2	1277.2	1278.2	1279.2	1279.2	1278.2	1275.2	1271.3	1266.4
5°	1278.2	1275.2	1271.3	1271.3	1273.3	1273.3	1273.3	1272.3	1269.3	1265.4	1260.5
7.5°	1268.4	1266.4	1261.5	1262.5	1263.4	1263.4	1263.4	1262.5	1258.5	1253.6	1248.7
10°	1255.6	1252.6	1248.7	1248.7	1249.7	1249.7	1249.7	1247.7	1242.8	1236.9	1230.1
12.5°	1238.9	1236.0	1232.0	1232.0	1232.0	1232.0	1232.0	1229.1	1221.2	1215.3	1209.5
15°	1218.3	1215.3	1211.4	1211.4	1210.4	1209.5	1207.5	1202.6	1195.7	1188.8	1181.0
17.5°	1195.7	1191.8	1186.9	1185.9	1184.9	1183.9	1181.0	1178.0	1168.2	1158.4	1146.6
20°	1169.2	1165.3	1160.4	1159.4	1156.4	1153.5	1151.5	1145.6	1134.8	1123.1	1115.2
22.5°	1139.8	1135.8	1130.9	1129.0	1123.1	1121.1	1118.2	1109.3	1097.5	1086.7	1077.9
25°	1109.3	1104.4	1098.5	1095.6	1088.7	1084.8	1083.8	1071.0	1059.3	1047.5	1036.7
27.5°	1074.0	1070.1	1065.1	1059.3	1052.4	1047.5	1045.5	1033.7	1019.0	1005.3	995.4
30°	1039.6	1033.7	1028.8	1021.9	1012.1	1007.2	1003.3	991.5	978.8	962.1	953.2
32.5°	999.4	995.4	989.6	982.7	972.9	968.9	963.0	948.3	931.6	919.9	906.1
35°	961.1	957.2	948.3	941.5	927.7	923.8	917.9	905.1	886.5	872.7	861.0
37.5°	918.9	914.0	907.1	897.3	885.5	880.6	872.7	860.0	838.4	824.6	809.9
40°	877.6	870.8	862.9	852.1	840.3	835.4	828.6	809.9	792.2	776.5	763.8
42.5°	836.4	828.6	818.7	808.9	796.2	789.3	781.4	763.8	744.1	729.4	711.7
45°	790.3	784.4	774.6	762.8	748.1	743.1	734.3	715.7	696.0	680.3	662.6
47.5°	745.1	738.2	728.4	716.6	701.9	695.0	686.2	667.6	647.9	628.3	612.6
50°	699.0	692.1	680.3	668.5	654.8	646.0	638.1	619.5	597.9	580.2	560.6
52.5°	649.9	644.0	634.2	622.4	604.7	597.9	590.0	569.4	548.8	528.2	510.5
55°	602.8	598.8	587.1	575.3	556.6	548.8	540.9	519.3	498.7	478.1	461.4
57.5°	553.7	550.7	539.0	525.2	508.5	500.7	490.9	469.3	449.6	429.0	411.3
60°	504.6	501.6	489.9	476.1	460.4	450.6	439.8	423.1	400.5	381.9	362.2
62.5°	457.5	453.5	443.7	429.0	411.3	401.5	391.7	372.1	351.4	331.8	314.1
65°	409.4	404.5	392.7	378.0	361.3	352.4	342.6	324.0	303.3	284.7	268.0
67.5°	361.3	356.4	343.6	331.8	312.2	303.3	294.5	275.9	256.2	237.6	221.9
70°	312.2	307.3	297.5	281.7	265.1	256.2	247.4	227.8	210.1	196.3	181.6
72.5°	264.1	260.2	250.3	235.6	219.9	211.1	201.2	184.6	168.9	154.1	143.3
75°	217.9	212.0	203.2	189.5	173.8	165.9	159.0	142.3	127.6	117.8	109.0
77.5°	173.8	166.9	157.1	146.3	131.5	123.7	116.8	103.1	93.3	86.4	84.4
80°	127.6	126.6	116.8	105.0	92.3	86.4	79.5	70.7	67.7	66.8	64.8
82.5°	89.3	85.4	77.6	66.8	56.9	53.0	51.0	49.1	47.1	47.1	45.2
85°	54.0	50.1	43.2	34.4	32.4	31.4	30.4	30.4	29.5	28.5	28.5
87.5°	23.6	19.6	14.7	13.7	12.8	12.8	13.7	13.7	13.7	12.8	12.8
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°	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2	1278.2
2.5°	1268.4	1273.3	1276.2	1277.2	1277.2	1277.2	1278.2	1278.2	1277.2	1276.2
5°	1261.5	1266.4	1268.4	1270.3	1270.3	1270.3	1270.3	1270.3	1269.3	1267.4
7.5°	1250.7	1253.6	1256.6	1255.6	1255.6	1254.6	1253.6	1254.6	1252.6	1252.6
10°	1231.1	1234.0	1236.0	1233.0	1233.0	1234.0	1234.0	1233.0	1230.1	1227.1
12.5°	1208.5	1211.4	1208.5	1209.5	1207.5	1205.5	1204.5	1203.6	1200.6	1198.7
15°	1179.0	1179.0	1177.1	1177.1	1174.1	1170.2	1169.2	1170.2	1166.3	1166.3
17.5°	1146.6	1144.7	1141.7	1139.8	1138.8	1138.8	1134.8	1134.8	1129.9	1129.0
20°	1111.3	1109.3	1106.4	1101.5	1099.5	1100.5	1096.6	1093.6	1090.7	1089.7
22.5°	1074.0	1069.1	1066.1	1061.2	1057.3	1057.3	1054.3	1049.4	1046.5	1043.5
25°	1031.8	1026.9	1021.0	1017.0	1014.1	1009.2	1007.2	1003.3	1000.4	999.4
27.5°	988.6	980.7	972.9	968.9	967.0	961.1	958.1	956.2	950.3	949.3
30°	942.4	936.5	926.7	919.9	914.9	915.9	909.1	905.1	902.2	899.2
32.5°	898.3	888.4	878.6	869.8	863.9	862.9	856.0	852.1	849.2	846.2
35°	848.2	838.4	826.6	818.7	812.8	809.9	803.0	801.1	796.2	794.2
37.5°	798.1	787.3	775.5	765.7	761.8	754.9	752.0	747.1	743.1	743.1
40°	749.0	736.3	724.5	712.7	707.8	703.9	696.0	692.1	687.2	684.2
42.5°	698.0	683.3	672.5	661.7	654.8	651.8	643.0	638.1	633.2	632.2
45°	646.9	632.2	618.5	607.7	604.7	598.8	590.0	583.1	582.1	581.2
47.5°	594.9	580.2	567.4	555.6	551.7	544.8	539.0	534.0	528.2	525.2
50°	544.8	530.1	516.4	503.6	498.7	492.8	486.9	480.1	478.1	475.1
52.5°	494.8	478.1	463.4	451.6	447.7	442.7	435.9	430.0	427.0	425.1
55°	443.7	427.0	414.3	402.5	397.6	394.6	386.8	381.9	378.0	376.0
57.5°	393.7	377.0	365.2	356.4	349.5	346.5	338.7	333.8	331.8	330.8
60°	346.5	330.8	318.1	309.2	303.3	300.4	294.5	289.6	286.7	285.7
62.5°	299.4	285.7	273.9	265.1	261.1	257.2	252.3	248.4	245.4	245.4
65°	254.3	240.5	229.7	222.8	218.9	217.0	211.1	209.1	206.2	206.2
67.5°	210.1	200.3	192.4	183.6	180.6	180.6	174.7	172.8	170.8	170.8
70°	171.8	163.0	154.1	149.2	146.3	145.3	140.4	137.4	135.5	133.5
72.5°	134.5	126.6	118.8	117.8	117.8	116.8	116.8	114.9	114.9	115.8
75°	103.1	101.1	99.2	99.2	98.2	97.2	97.2	96.2	96.2	96.2
77.5°	82.5	81.5	80.5	79.5	79.5	78.5	77.6	77.6	77.6	77.6
80°	62.8	61.8	61.8	60.9	59.9	60.9	59.9	59.9	58.9	58.9
82.5°	44.2	44.2	44.2	43.2	43.2	43.2	43.2	42.2	42.2	43.2
85°	27.5	27.5	27.5	27.5	26.5	27.5	26.5	26.5	26.5	27.5
87.5°	11.8	12.8	11.8	12.8	12.8	11.8	11.8	11.8	11.8	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)