

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: P243401

Luminaire Tested: **S123RDR-H775D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243401
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-H775D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2771.8 lumens
Efficiency: N/A
Efficacy: 117.4 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

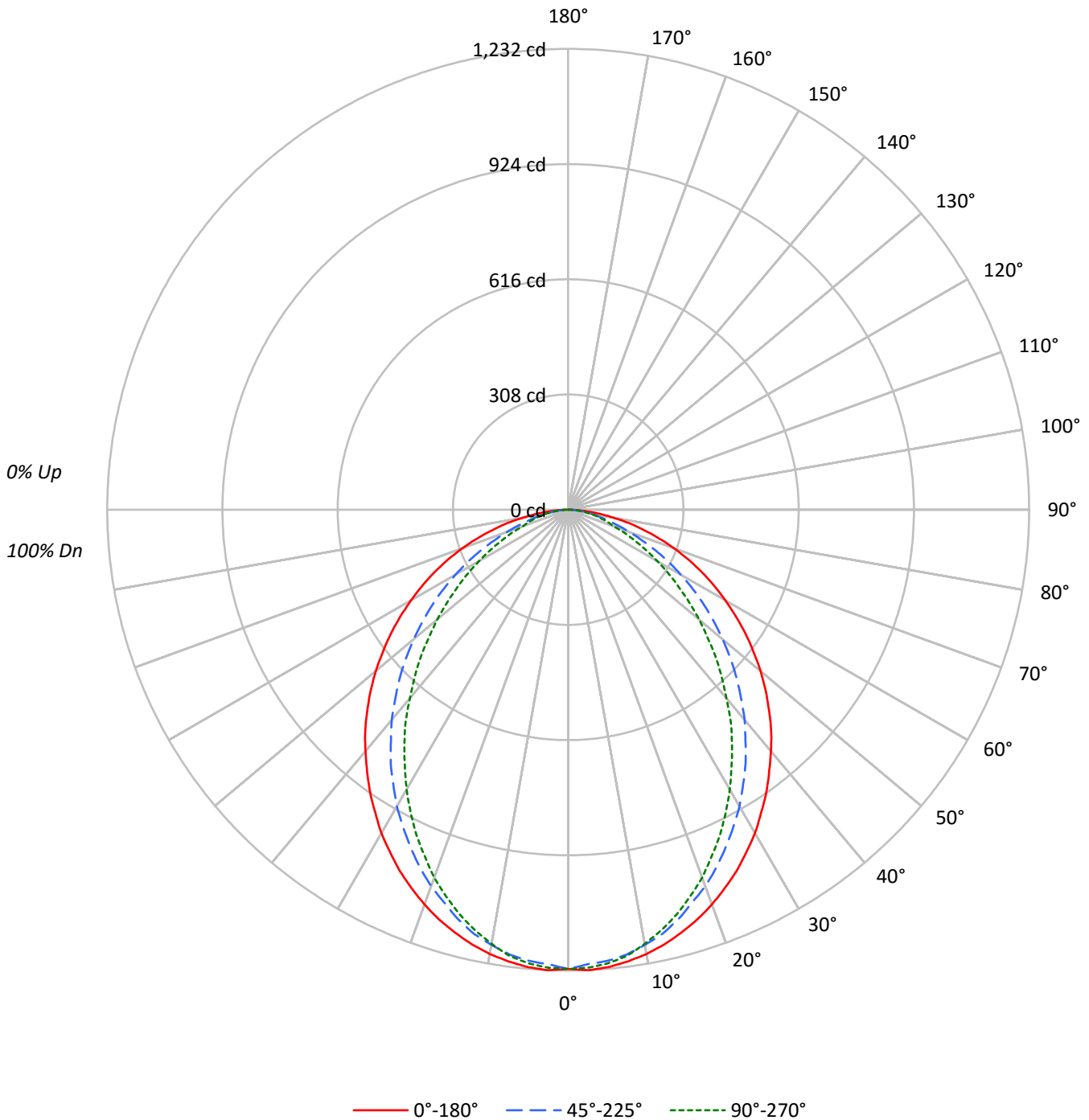
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	14880	14880	14880
5°	14937	14731	14812
10°	14844	14541	14506
15°	14683	14234	14057
20°	14486	13816	13500
25°	14250	13317	12838
30°	13975	12814	12089
35°	13659	12236	11287
40°	13337	11608	10399
45°	13011	10911	9569
50°	12659	10153	8606
55°	12234	9366	7631
60°	11748	8434	6652
65°	11277	7383	5679
70°	10625	6181	4543
75°	9802	4903	4327
80°	8558	4342	3951
85°	7218	3797	3672



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.5	4.2
10°-20°	321.5	11.6
20°-30°	462.9	16.7
30°-40°	521.4	18.8
40°-50°	498.1	18.0
50°-60°	407.3	14.7
60°-70°	273.5	9.9
70°-80°	136.4	4.9
80°-90°	35.3	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°	899.9	32.5
0°-40°	1421.3	51.3
0°-60°	2326.6	83.9
0°-90°	2771.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2771.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1228	1223	1211	1220	1217	116
15°	1170	1162	1134	1128	1120	330
25°	1066	1042	996	974	960	490
35°	923	887	827	781	763	577
45°	759	714	636	581	558	586
55°	579	527	443	382	361	517
65°	393	338	257	210	198	389
75°	209	159	105	94	92	222
85°	52	30	27	26	26	60
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°	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6
2.5°	1232.4	1229.5	1225.8	1226.7	1227.6	1228.6	1228.6	1227.6	1224.8	1221.0	1216.3
5°	1227.6	1224.8	1221.0	1221.0	1222.9	1222.9	1222.9	1222.0	1219.2	1215.4	1210.7
7.5°	1218.2	1216.3	1211.6	1212.6	1213.5	1213.5	1213.5	1212.6	1208.8	1204.1	1199.4
10°	1206.0	1203.1	1199.4	1199.4	1200.3	1200.3	1200.3	1198.4	1193.7	1188.0	1181.4
12.5°	1189.9	1187.1	1183.3	1183.3	1183.3	1183.3	1183.3	1180.5	1173.0	1167.3	1161.6
15°	1170.1	1167.3	1163.5	1163.5	1162.6	1161.6	1159.8	1155.0	1148.4	1141.8	1134.3
17.5°	1148.4	1144.7	1140.0	1139.0	1138.1	1137.1	1134.3	1131.5	1122.0	1112.6	1101.3
20°	1123.0	1119.2	1114.5	1113.6	1110.7	1107.9	1106.0	1100.4	1090.0	1078.7	1071.1
22.5°	1094.7	1090.9	1086.2	1084.3	1078.7	1076.8	1074.0	1065.5	1054.2	1043.8	1035.3
25°	1065.5	1060.8	1055.1	1052.3	1045.7	1041.9	1041.0	1028.7	1017.4	1006.1	995.7
27.5°	1031.5	1027.7	1023.0	1017.4	1010.8	1006.1	1004.2	992.9	978.7	965.5	956.1
30°	998.5	992.9	988.1	981.5	972.1	967.4	963.6	952.3	940.1	924.0	915.5
32.5°	959.9	956.1	950.4	943.8	934.4	930.6	925.0	910.8	894.8	883.5	870.3
35°	923.1	919.3	910.8	904.2	891.0	887.3	881.6	869.3	851.4	838.2	826.9
37.5°	882.5	877.8	871.2	861.8	850.5	845.8	838.2	826.0	805.2	792.0	777.9
40°	842.9	836.3	828.8	818.4	807.1	802.4	795.8	777.9	760.9	745.8	733.6
42.5°	803.3	795.8	786.4	776.9	764.7	758.1	750.5	733.6	714.7	700.6	683.6
45°	759.0	753.4	743.9	732.6	718.5	713.8	705.3	687.4	668.5	653.4	636.5
47.5°	715.7	709.1	699.6	688.3	674.2	667.6	659.1	641.2	622.3	603.4	588.4
50°	671.3	664.7	653.4	642.1	628.9	620.4	612.9	595.0	574.2	557.2	538.4
52.5°	624.2	618.5	609.1	597.8	580.8	574.2	566.7	546.9	527.1	507.3	490.3
55°	578.9	575.2	563.8	552.5	534.6	527.1	519.5	498.8	479.0	459.2	443.2
57.5°	531.8	529.0	517.6	504.4	488.4	480.9	471.4	450.7	431.8	412.0	395.1
60°	484.6	481.8	470.5	457.3	442.2	432.8	422.4	406.4	384.7	366.8	347.9
62.5°	439.4	435.6	426.2	412.0	395.1	385.6	376.2	357.4	337.6	318.7	301.7
65°	393.2	388.5	377.2	363.0	347.0	338.5	329.1	311.2	291.4	273.4	257.4
67.5°	347.0	342.3	330.0	318.7	299.8	291.4	282.9	265.0	246.1	228.2	213.1
70°	299.8	295.1	285.7	270.6	254.6	246.1	237.6	218.8	201.8	188.6	174.4
72.5°	253.6	249.9	240.4	226.3	211.2	202.7	193.3	177.3	162.2	148.0	137.7
75°	209.3	203.7	195.2	182.0	166.9	159.3	152.7	136.7	122.6	113.1	104.7
77.5°	166.9	160.3	150.9	140.5	126.3	118.8	112.2	99.0	89.6	83.0	81.1
80°	122.6	121.6	112.2	100.9	88.6	83.0	76.4	67.9	65.1	64.1	62.2
82.5°	85.8	82.0	74.5	64.1	54.7	50.9	49.0	47.1	45.3	45.3	43.4
85°	51.9	48.1	41.5	33.0	31.1	30.2	29.2	29.2	28.3	27.3	27.3
87.5°	22.6	18.9	14.1	13.2	12.3	12.3	13.2	13.2	13.2	12.3	12.3
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°	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6	1227.6
2.5°	1218.2	1222.9	1225.8	1226.7	1226.7	1226.7	1227.6	1227.6	1226.7	1225.8
5°	1211.6	1216.3	1218.2	1220.1	1220.1	1220.1	1220.1	1220.1	1219.2	1217.3
7.5°	1201.2	1204.1	1206.9	1206.0	1206.0	1205.0	1204.1	1205.0	1203.1	1203.1
10°	1182.4	1185.2	1187.1	1184.3	1184.3	1185.2	1185.2	1184.3	1181.4	1178.6
12.5°	1160.7	1163.5	1160.7	1161.6	1159.8	1157.9	1156.9	1156.0	1153.2	1151.3
15°	1132.4	1132.4	1130.5	1130.5	1127.7	1123.9	1123.0	1123.9	1120.2	1120.2
17.5°	1101.3	1099.4	1096.6	1094.7	1093.8	1093.8	1090.0	1090.0	1085.3	1084.3
20°	1067.4	1065.5	1062.6	1057.9	1056.0	1057.0	1053.2	1050.4	1047.6	1046.6
22.5°	1031.5	1026.8	1024.0	1019.3	1015.5	1015.5	1012.7	1007.9	1005.1	1002.3
25°	991.0	986.3	980.6	976.8	974.0	969.3	967.4	963.6	960.8	959.9
27.5°	949.5	941.9	934.4	930.6	928.7	923.1	920.3	918.4	912.7	911.8
30°	905.2	899.5	890.1	883.5	878.8	879.7	873.1	869.3	866.5	863.7
32.5°	862.7	853.3	843.9	835.4	829.7	828.8	822.2	818.4	815.6	812.8
35°	814.7	805.2	793.9	786.4	780.7	777.9	771.3	769.4	764.7	762.8
37.5°	766.6	756.2	744.9	735.5	731.7	725.1	722.3	717.5	713.8	713.8
40°	719.4	707.2	695.9	684.5	679.8	676.1	668.5	664.7	660.0	657.2
42.5°	670.4	656.3	645.9	635.5	628.9	626.1	617.6	612.9	608.2	607.2
45°	621.4	607.2	594.0	583.6	580.8	575.2	566.7	560.1	559.1	558.2
47.5°	571.4	557.2	545.0	533.7	529.9	523.3	517.6	512.9	507.3	504.4
50°	523.3	509.2	496.0	483.7	479.0	473.3	467.7	461.1	459.2	456.4
52.5°	475.2	459.2	445.0	433.7	430.0	425.2	418.6	413.0	410.2	408.3
55°	426.2	410.2	397.9	386.6	381.9	379.0	371.5	366.8	363.0	361.1
57.5°	378.1	362.1	350.8	342.3	335.7	332.8	325.3	320.6	318.7	317.8
60°	332.8	317.8	305.5	297.0	291.4	288.5	282.9	278.2	275.3	274.4
62.5°	287.6	274.4	263.1	254.6	250.8	247.0	242.3	238.6	235.7	235.7
65°	244.2	231.0	220.6	214.0	210.3	208.4	202.7	200.8	198.0	198.0
67.5°	201.8	192.3	184.8	176.3	173.5	173.5	167.8	165.9	164.1	164.1
70°	165.0	156.5	148.0	143.3	140.5	139.5	134.8	132.0	130.1	128.2
72.5°	129.2	121.6	114.1	113.1	113.1	112.2	112.2	110.3	110.3	111.3
75°	99.0	97.1	95.2	95.2	94.3	93.3	93.3	92.4	92.4	92.4
77.5°	79.2	78.3	77.3	76.4	76.4	75.4	74.5	74.5	74.5	74.5
80°	60.3	59.4	59.4	58.5	57.5	58.5	57.5	57.5	56.6	56.6
82.5°	42.4	42.4	42.4	41.5	41.5	41.5	41.5	40.5	40.5	41.5
85°	26.4	26.4	26.4	26.4	25.5	26.4	25.5	25.5	25.5	26.4
87.5°	11.3	12.3	11.3	12.3	12.3	11.3	11.3	11.3	11.3	11.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)