

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: P243416

Luminaire Tested: **S123RDR-H775D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243416
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-H775D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2447.5 lumens
Efficiency: N/A
Efficacy: 103.7 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

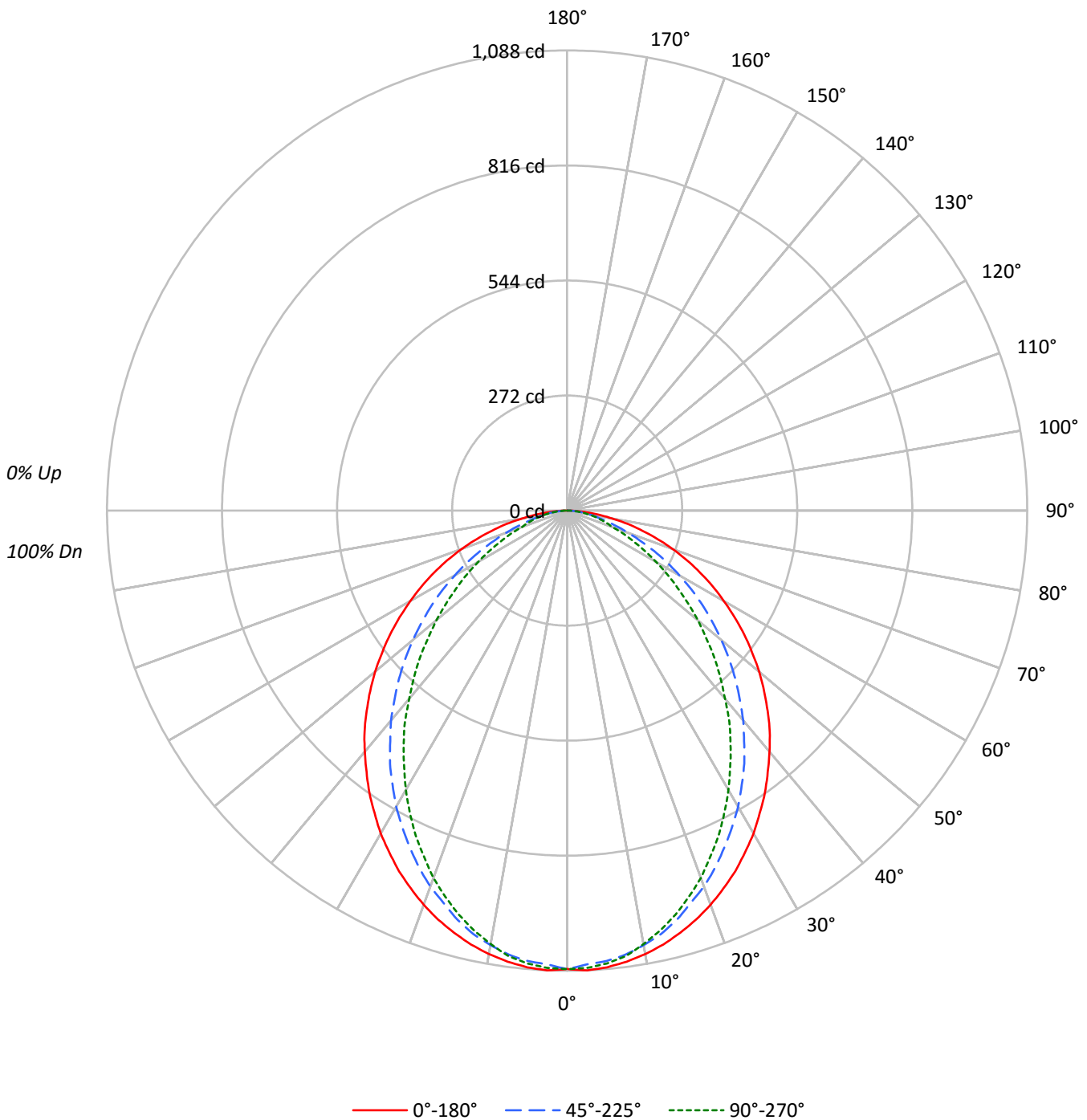
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	13139	13139	13139
5°	13190	13007	13078
10°	13107	12840	12809
15°	12965	12569	12412
20°	12791	12200	11921
25°	12583	11759	11336
30°	12341	11315	10674
35°	12061	10805	9967
40°	11777	10249	9182
45°	11489	9634	8449
50°	11179	8965	7599
55°	10803	8269	6739
60°	10373	7447	5874
65°	9958	6519	5013
70°	9385	5458	4012
75°	8655	4327	3822
80°	7553	3832	3490
85°	6370	3352	3240



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	4.2
10°-20°	283.9	11.6
20°-30°	408.7	16.7
30°-40°	460.4	18.8
40°-50°	439.8	18.0
50°-60°	359.6	14.7
60°-70°	241.5	9.9
70°-80°	120.4	4.9
80°-90°	31.1	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°	794.6	32.5
0°-40°	1255.0	51.3
0°-60°	2054.4	83.9
0°-90°	2447.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2447.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1084	1084	1084	1084	1084	
5°	1084	1080	1069	1077	1075	103
15°	1033	1026	1002	996	989	291
25°	941	920	879	860	848	433
35°	815	783	730	689	674	510
45°	670	630	562	513	493	517
55°	511	465	391	337	319	457
65°	347	299	227	186	175	343
75°	185	141	92	83	82	196
85°	46	27	24	22	23	53
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°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1088.2	1085.7	1082.3	1083.2	1084.0	1084.8	1084.8	1084.0	1081.5	1078.2	1074.0
5°	1084.0	1081.5	1078.2	1078.2	1079.8	1079.8	1079.8	1079.0	1076.5	1073.2	1069.0
7.5°	1075.7	1074.0	1069.9	1070.7	1071.5	1071.5	1071.5	1070.7	1067.4	1063.2	1059.0
10°	1064.9	1062.4	1059.0	1059.0	1059.9	1059.9	1059.9	1058.2	1054.0	1049.0	1043.2
12.5°	1050.7	1048.2	1044.9	1044.9	1044.9	1044.9	1044.9	1042.4	1035.7	1030.7	1025.7
15°	1033.2	1030.7	1027.4	1027.4	1026.6	1025.7	1024.1	1019.9	1014.1	1008.2	1001.6
17.5°	1014.1	1010.7	1006.6	1005.7	1004.9	1004.1	1001.6	999.1	990.8	982.4	972.4
20°	991.6	988.3	984.1	983.3	980.8	978.3	976.6	971.6	962.5	952.5	945.8
22.5°	966.6	963.3	959.1	957.5	952.5	950.8	948.3	940.8	930.8	921.7	914.2
25°	940.8	936.6	931.6	929.1	923.3	920.0	919.2	908.3	898.3	888.4	879.2
27.5°	910.8	907.5	903.3	898.3	892.5	888.4	886.7	876.7	864.2	852.6	844.2
30°	881.7	876.7	872.5	866.7	858.4	854.2	850.9	840.9	830.1	815.9	808.4
32.5°	847.6	844.2	839.2	833.4	825.1	821.7	816.8	804.3	790.1	780.1	768.5
35°	815.1	811.8	804.3	798.4	786.8	783.4	778.5	767.6	751.8	740.2	730.2
37.5°	779.3	775.1	769.3	761.0	751.0	746.8	740.2	729.3	711.0	699.4	686.9
40°	744.3	738.5	731.8	722.7	712.7	708.5	702.7	686.9	671.9	658.6	647.7
42.5°	709.4	702.7	694.4	686.0	675.2	669.4	662.7	647.7	631.1	618.6	603.6
45°	670.2	665.2	656.9	646.9	634.4	630.3	622.8	606.9	590.3	577.0	562.0
47.5°	631.9	626.1	617.8	607.8	595.3	589.5	582.0	566.1	549.5	532.8	519.5
50°	592.8	587.0	577.0	567.0	555.3	547.8	541.2	525.4	507.0	492.0	475.4
52.5°	551.2	546.2	537.8	527.9	512.9	507.0	500.4	482.9	465.4	447.9	432.9
55°	511.2	507.9	497.9	487.9	472.1	465.4	458.7	440.4	422.9	405.5	391.3
57.5°	469.6	467.1	457.1	445.4	431.3	424.6	416.3	398.0	381.3	363.8	348.8
60°	427.9	425.4	415.5	403.8	390.5	382.2	373.0	358.8	339.7	323.9	307.2
62.5°	388.0	384.6	376.3	363.8	348.8	340.5	332.2	315.5	298.1	281.4	266.4
65°	347.2	343.0	333.0	320.5	306.4	298.9	290.6	274.7	257.3	241.4	227.3
67.5°	306.4	302.2	291.4	281.4	264.8	257.3	249.8	234.0	217.3	201.5	188.2
70°	264.8	260.6	252.3	238.9	224.8	217.3	209.8	193.2	178.2	166.5	154.0
72.5°	224.0	220.6	212.3	199.8	186.5	179.0	170.7	156.5	143.2	130.7	121.6
75°	184.8	179.8	172.3	160.7	147.4	140.7	134.9	120.7	108.2	99.9	92.4
77.5°	147.4	141.5	133.2	124.1	111.6	104.9	99.1	87.4	79.1	73.3	71.6
80°	108.2	107.4	99.1	89.1	78.3	73.3	67.4	59.9	57.4	56.6	54.9
82.5°	75.8	72.4	65.8	56.6	48.3	45.0	43.3	41.6	40.0	40.0	38.3
85°	45.8	42.5	36.6	29.1	27.5	26.6	25.8	25.8	25.0	24.1	24.1
87.5°	20.0	16.7	12.5	11.7	10.8	10.8	11.7	11.7	11.7	10.8	10.8
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°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1075.7	1079.8	1082.3	1083.2	1083.2	1083.2	1084.0	1084.0	1083.2	1082.3
5°	1069.9	1074.0	1075.7	1077.3	1077.3	1077.3	1077.3	1077.3	1076.5	1074.8
7.5°	1060.7	1063.2	1065.7	1064.9	1064.9	1064.0	1063.2	1064.0	1062.4	1062.4
10°	1044.0	1046.5	1048.2	1045.7	1045.7	1046.5	1046.5	1045.7	1043.2	1040.7
12.5°	1024.9	1027.4	1024.9	1025.7	1024.1	1022.4	1021.6	1020.7	1018.2	1016.6
15°	999.9	999.9	998.3	998.3	995.8	992.4	991.6	992.4	989.1	989.1
17.5°	972.4	970.8	968.3	966.6	965.8	965.8	962.5	962.5	958.3	957.5
20°	942.5	940.8	938.3	934.1	932.5	933.3	930.0	927.5	925.0	924.2
22.5°	910.8	906.7	904.2	900.0	896.7	896.7	894.2	890.0	887.5	885.0
25°	875.0	870.9	865.9	862.5	860.0	855.9	854.2	850.9	848.4	847.6
27.5°	838.4	831.7	825.1	821.7	820.1	815.1	812.6	810.9	805.9	805.1
30°	799.3	794.3	785.9	780.1	776.0	776.8	771.0	767.6	765.1	762.6
32.5°	761.8	753.5	745.2	737.7	732.7	731.8	726.0	722.7	720.2	717.7
35°	719.3	711.0	701.0	694.4	689.4	686.9	681.0	679.4	675.2	673.6
37.5°	676.9	667.7	657.7	649.4	646.1	640.2	637.7	633.6	630.3	630.3
40°	635.3	624.4	614.4	604.4	600.3	597.0	590.3	587.0	582.8	580.3
42.5°	592.0	579.5	570.3	561.2	555.3	552.8	545.3	541.2	537.0	536.2
45°	548.7	536.2	524.5	515.4	512.9	507.9	500.4	494.5	493.7	492.9
47.5°	504.5	492.0	481.2	471.2	467.9	462.1	457.1	452.9	447.9	445.4
50°	462.1	449.6	437.9	427.1	422.9	418.0	413.0	407.1	405.5	403.0
52.5°	419.6	405.5	393.0	383.0	379.7	375.5	369.7	364.7	362.2	360.5
55°	376.3	362.2	351.3	341.4	337.2	334.7	328.0	323.9	320.5	318.9
57.5°	333.9	319.7	309.7	302.2	296.4	293.9	287.2	283.1	281.4	280.6
60°	293.9	280.6	269.8	262.3	257.3	254.8	249.8	245.6	243.1	242.3
62.5°	253.9	242.3	232.3	224.8	221.5	218.1	214.0	210.6	208.1	208.1
65°	215.6	204.0	194.8	189.0	185.7	184.0	179.0	177.3	174.8	174.8
67.5°	178.2	169.8	163.2	155.7	153.2	153.2	148.2	146.5	144.9	144.9
70°	145.7	138.2	130.7	126.6	124.1	123.2	119.1	116.6	114.9	113.2
72.5°	114.1	107.4	100.7	99.9	99.9	99.1	99.1	97.4	97.4	98.2
75°	87.4	85.8	84.1	84.1	83.3	82.4	82.4	81.6	81.6	81.6
77.5°	69.9	69.1	68.3	67.4	67.4	66.6	65.8	65.8	65.8	65.8
80°	53.3	52.5	52.5	51.6	50.8	51.6	50.8	50.8	50.0	50.0
82.5°	37.5	37.5	37.5	36.6	36.6	36.6	36.6	35.8	35.8	36.6
85°	23.3	23.3	23.3	23.3	22.5	23.3	22.5	22.5	22.5	23.3
87.5°	10.0	10.8	10.0	10.8	10.8	10.0	10.0	10.0	10.0	10.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)