

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: P243406

Luminaire Tested: **S123RDR-H775D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243406
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-H775D930-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: 2237.7 lumens
Efficiency: N/A
Efficacy: 94.8 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

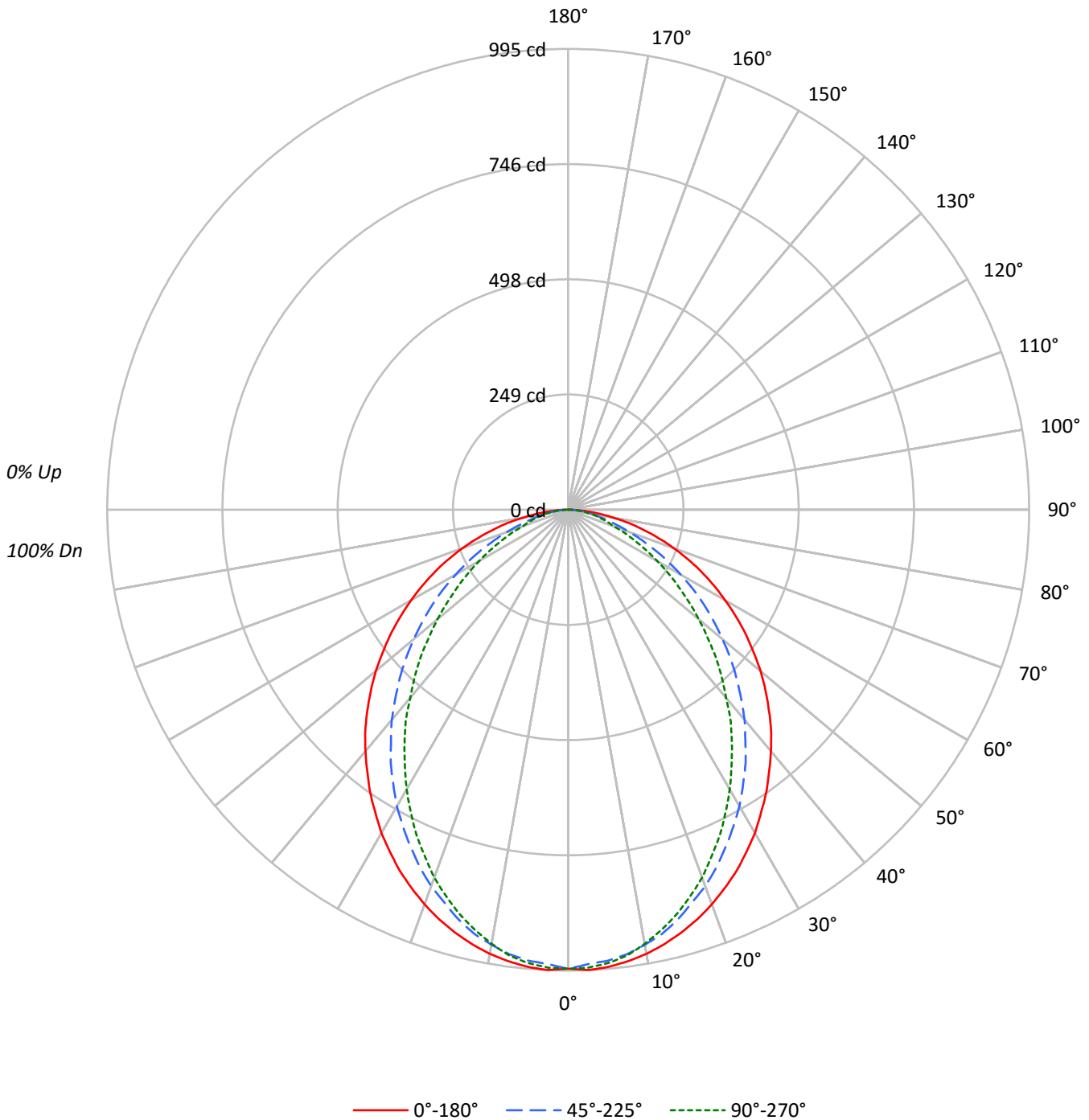
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12013	12013	12013
5°	12059	11893	11957
10°	11983	11740	11711
15°	11855	11492	11348
20°	11694	11155	10900
25°	11505	10752	10364
30°	11282	10346	9760
35°	11027	9879	9112
40°	10768	9370	8396
45°	10505	8808	7724
50°	10221	8197	6947
55°	9877	7561	6162
60°	9486	6810	5370
65°	9103	5960	4586
70°	8580	4990	3668
75°	7915	3957	3494
80°	6911	3504	3190
85°	5827	3074	2962



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.2	4.2
10°-20°	259.6	11.6
20°-30°	373.7	16.7
30°-40°	420.9	18.8
40°-50°	402.1	18.0
50°-60°	328.8	14.7
60°-70°	220.8	9.9
70°-80°	110.1	4.9
80°-90°	28.5	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°	726.5	32.5
0°-40°	1147.4	51.3
0°-60°	1878.4	83.9
0°-90°	2237.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2237.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	991	991	991	991	991	
5°	991	987	977	985	983	94
15°	945	938	916	910	904	266
25°	860	841	804	786	775	396
35°	745	716	668	630	616	466
45°	613	576	514	469	451	473
55°	467	426	358	308	292	418
65°	317	273	208	170	160	314
75°	169	129	84	76	75	179
85°	42	24	22	21	21	49
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°	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1
2.5°	994.9	992.6	989.6	990.4	991.1	991.9	991.9	991.1	988.8	985.8	982.0
5°	991.1	988.8	985.8	985.8	987.3	987.3	987.3	986.6	984.3	981.2	977.4
7.5°	983.5	982.0	978.2	978.9	979.7	979.7	979.7	978.9	975.9	972.1	968.3
10°	973.6	971.3	968.3	968.3	969.0	969.0	969.0	967.5	963.7	959.1	953.8
12.5°	960.7	958.4	955.3	955.3	955.3	955.3	955.3	953.1	947.0	942.4	937.8
15°	944.7	942.4	939.4	939.4	938.6	937.8	936.3	932.5	927.2	921.8	915.8
17.5°	927.2	924.1	920.3	919.6	918.8	918.0	915.8	913.5	905.9	898.2	889.1
20°	906.6	903.6	899.8	899.0	896.7	894.4	892.9	888.4	880.0	870.8	864.8
22.5°	883.8	880.7	876.9	875.4	870.8	869.3	867.0	860.2	851.1	842.7	835.8
25°	860.2	856.4	851.8	849.5	844.2	841.2	840.4	830.5	821.4	812.2	803.9
27.5°	832.8	829.7	825.9	821.4	816.0	812.2	810.7	801.6	790.2	779.5	771.9
30°	806.1	801.6	797.8	792.4	784.8	781.0	778.0	768.8	758.9	746.0	739.2
32.5°	774.9	771.9	767.3	762.0	754.4	751.3	746.8	735.3	722.4	713.3	702.6
35°	745.2	742.2	735.3	730.0	719.4	716.3	711.7	701.9	687.4	676.7	667.6
37.5°	712.5	708.7	703.4	695.8	686.6	682.8	676.7	666.8	650.1	639.4	628.0
40°	680.5	675.2	669.1	660.7	651.6	647.8	642.5	628.0	614.3	602.1	592.2
42.5°	648.6	642.5	634.9	627.3	617.4	612.0	605.9	592.2	577.0	565.6	551.9
45°	612.8	608.2	600.6	591.5	580.1	576.2	569.4	554.9	539.7	527.5	513.8
47.5°	577.8	572.4	564.8	555.7	544.3	538.9	532.1	517.6	502.4	487.2	475.0
50°	542.0	536.7	527.5	518.4	507.7	500.9	494.8	480.3	463.6	449.9	434.7
52.5°	503.9	499.4	491.8	482.6	468.9	463.6	457.5	441.5	425.5	409.5	395.8
55°	467.4	464.3	455.2	446.1	431.6	425.5	419.4	402.7	386.7	370.7	357.8
57.5°	429.3	427.0	417.9	407.3	394.3	388.2	380.6	363.9	348.6	332.7	319.0
60°	391.3	389.0	379.9	369.2	357.0	349.4	341.0	328.1	310.6	296.1	280.9
62.5°	354.7	351.7	344.1	332.7	319.0	311.3	303.7	288.5	272.5	257.3	243.6
65°	317.4	313.6	304.5	293.1	280.1	273.3	265.7	251.2	235.2	220.8	207.8
67.5°	280.1	276.3	266.4	257.3	242.1	235.2	228.4	213.9	198.7	184.2	172.0
70°	242.1	238.3	230.7	218.5	205.5	198.7	191.8	176.6	162.9	152.2	140.8
72.5°	204.8	201.7	194.1	182.7	170.5	163.7	156.1	143.1	130.9	119.5	111.1
75°	169.0	164.4	157.6	146.9	134.7	128.6	123.3	110.4	99.0	91.3	84.5
77.5°	134.7	129.4	121.8	113.4	102.0	95.9	90.6	79.9	72.3	67.0	65.5
80°	99.0	98.2	90.6	81.5	71.6	67.0	61.7	54.8	52.5	51.8	50.2
82.5°	69.3	66.2	60.1	51.8	44.2	41.1	39.6	38.1	36.5	36.5	35.0
85°	41.9	38.8	33.5	26.6	25.1	24.4	23.6	23.6	22.8	22.1	22.1
87.5°	18.3	15.2	11.4	10.7	9.9	9.9	10.7	10.7	10.7	9.9	9.9
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°	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1	991.1
2.5°	983.5	987.3	989.6	990.4	990.4	990.4	991.1	991.1	990.4	989.6
5°	978.2	982.0	983.5	985.0	985.0	985.0	985.0	985.0	984.3	982.7
7.5°	969.8	972.1	974.4	973.6	973.6	972.8	972.1	972.8	971.3	971.3
10°	954.6	956.9	958.4	956.1	956.1	956.9	956.9	956.1	953.8	951.5
12.5°	937.1	939.4	937.1	937.8	936.3	934.8	934.0	933.3	931.0	929.5
15°	914.2	914.2	912.7	912.7	910.4	907.4	906.6	907.4	904.3	904.3
17.5°	889.1	887.6	885.3	883.8	883.0	883.0	880.0	880.0	876.2	875.4
20°	861.7	860.2	857.9	854.1	852.6	853.3	850.3	848.0	845.7	845.0
22.5°	832.8	829.0	826.7	822.9	819.8	819.8	817.6	813.8	811.5	809.2
25°	800.1	796.2	791.7	788.6	786.3	782.5	781.0	778.0	775.7	774.9
27.5°	766.6	760.5	754.4	751.3	749.8	745.2	743.0	741.4	736.9	736.1
30°	730.8	726.2	718.6	713.3	709.5	710.2	704.9	701.9	699.6	697.3
32.5°	696.5	688.9	681.3	674.4	669.9	669.1	663.8	660.7	658.5	656.2
35°	657.7	650.1	641.0	634.9	630.3	628.0	622.7	621.2	617.4	615.8
37.5°	618.9	610.5	601.4	593.8	590.7	585.4	583.1	579.3	576.2	576.2
40°	580.8	570.9	561.8	552.7	548.8	545.8	539.7	536.7	532.9	530.6
42.5°	541.2	529.8	521.4	513.1	507.7	505.5	498.6	494.8	491.0	490.2
45°	501.6	490.2	479.6	471.2	468.9	464.3	457.5	452.2	451.4	450.6
47.5°	461.3	449.9	440.0	430.9	427.8	422.5	417.9	414.1	409.5	407.3
50°	422.5	411.1	400.4	390.5	386.7	382.1	377.6	372.2	370.7	368.4
52.5°	383.7	370.7	359.3	350.2	347.1	343.3	338.0	333.4	331.1	329.6
55°	344.1	331.1	321.2	312.1	308.3	306.0	299.9	296.1	293.1	291.6
57.5°	305.3	292.3	283.2	276.3	271.0	268.7	262.6	258.8	257.3	256.5
60°	268.7	256.5	246.6	239.8	235.2	232.9	228.4	224.6	222.3	221.5
62.5°	232.2	221.5	212.4	205.5	202.5	199.4	195.6	192.6	190.3	190.3
65°	197.2	186.5	178.1	172.8	169.8	168.2	163.7	162.1	159.9	159.9
67.5°	162.9	155.3	149.2	142.3	140.1	140.1	135.5	134.0	132.5	132.5
70°	133.2	126.4	119.5	115.7	113.4	112.7	108.9	106.6	105.0	103.5
72.5°	104.3	98.2	92.1	91.3	91.3	90.6	90.6	89.1	89.1	89.8
75°	79.9	78.4	76.9	76.9	76.1	75.4	75.4	74.6	74.6	74.6
77.5°	63.9	63.2	62.4	61.7	61.7	60.9	60.1	60.1	60.1	60.1
80°	48.7	48.0	48.0	47.2	46.4	47.2	46.4	46.4	45.7	45.7
82.5°	34.3	34.3	34.3	33.5	33.5	33.5	33.5	32.7	32.7	33.5
85°	21.3	21.3	21.3	21.3	20.6	21.3	20.6	20.6	20.6	21.3
87.5°	9.1	9.9	9.1	9.9	9.9	9.1	9.1	9.1	9.1	9.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)