

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: P243387

Luminaire Tested: **S123RDR-H775D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243387
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-H775D927-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2174.3 lumens
Efficiency: N/A
Efficacy: 92.1 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

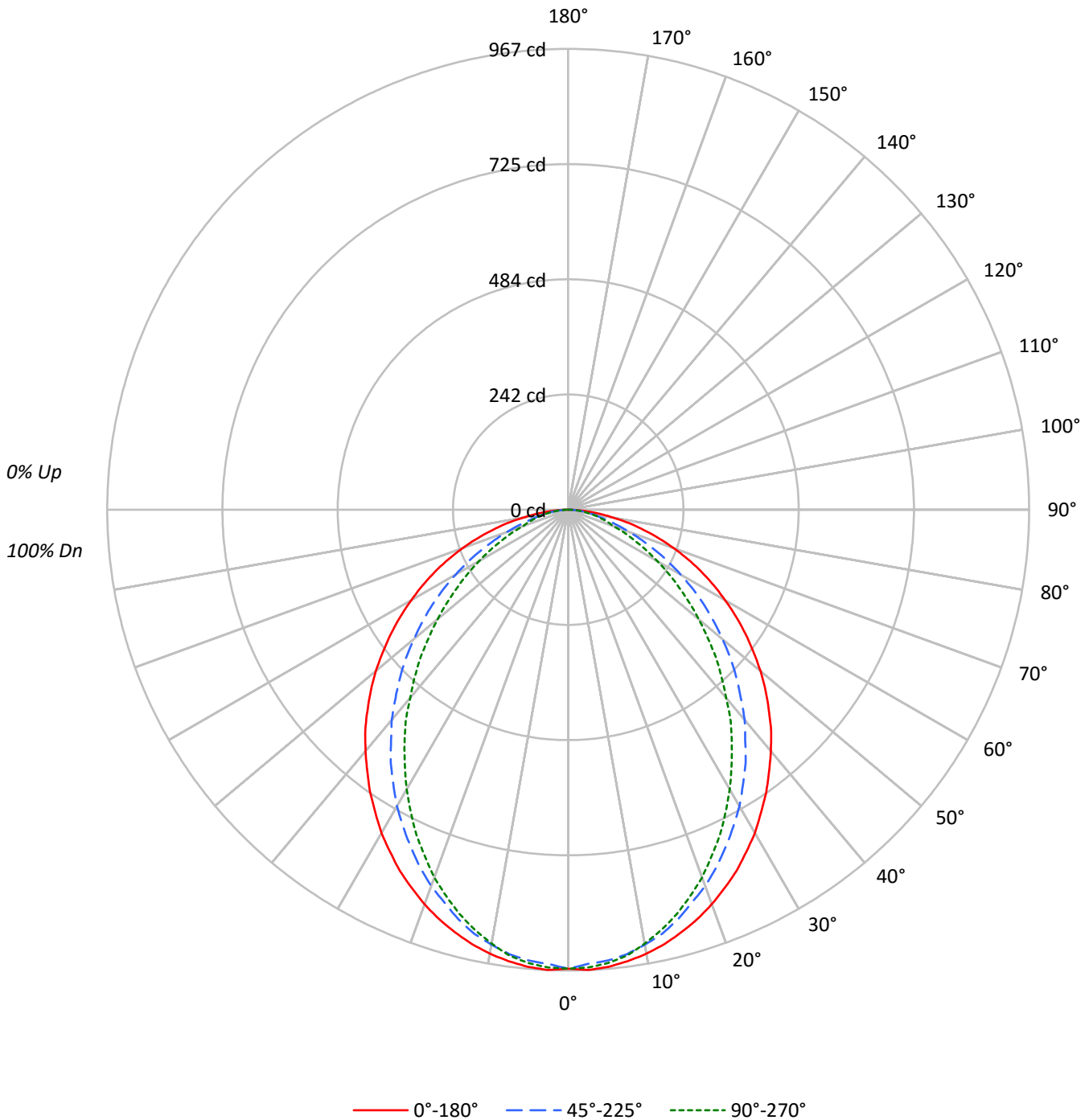
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	11673	11673	11673
5°	11717	11555	11619
10°	11644	11407	11380
15°	11519	11166	11027
20°	11363	10838	10590
25°	11178	10447	10071
30°	10963	10052	9483
35°	10715	9599	8855
40°	10462	9105	8157
45°	10206	8559	7506
50°	9930	7963	6751
55°	9596	7346	5987
60°	9217	6616	5217
65°	8845	5791	4454
70°	8336	4848	3565
75°	7690	3845	3395
80°	6715	3406	3099
85°	5660	2976	2879



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.6	4.2
10°-20°	252.2	11.6
20°-30°	363.1	16.7
30°-40°	409.0	18.8
40°-50°	390.7	18.0
50°-60°	319.5	14.7
60°-70°	214.5	9.9
70°-80°	107.0	4.9
80°-90°	27.7	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°	705.9	32.5
0°-40°	1114.9	51.3
0°-60°	1825.1	83.9
0°-90°	2174.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2174.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	963	963	963	963	963	
5°	963	959	950	957	955	91
15°	918	911	890	885	879	259
25°	836	817	781	764	753	385
35°	724	696	649	612	598	453
45°	595	560	499	456	438	460
55°	454	414	348	300	283	406
65°	308	266	202	165	155	305
75°	164	125	82	74	72	174
85°	41	24	21	20	21	47
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°	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0
2.5°	966.7	964.5	961.5	962.3	963.0	963.8	963.8	963.0	960.8	957.8	954.1
5°	963.0	960.8	957.8	957.8	959.3	959.3	959.3	958.6	956.4	953.4	949.7
7.5°	955.6	954.1	950.4	951.2	951.9	951.9	951.9	951.2	948.2	944.5	940.8
10°	946.0	943.8	940.8	940.8	941.6	941.6	941.6	940.1	936.4	932.0	926.8
12.5°	933.4	931.2	928.3	928.3	928.3	928.3	928.3	926.0	920.1	915.7	911.2
15°	917.9	915.7	912.7	912.7	912.0	911.2	909.8	906.1	900.9	895.7	889.8
17.5°	900.9	897.9	894.2	893.5	892.8	892.0	889.8	887.6	880.2	872.8	863.9
20°	880.9	878.0	874.3	873.5	871.3	869.1	867.6	863.2	855.0	846.2	840.2
22.5°	858.7	855.8	852.1	850.6	846.2	844.7	842.5	835.8	826.9	818.8	812.1
25°	835.8	832.1	827.7	825.4	820.3	817.3	816.6	807.0	798.1	789.2	781.1
27.5°	809.2	806.2	802.5	798.1	792.9	789.2	787.7	778.8	767.8	757.4	750.0
30°	783.3	778.8	775.1	770.0	762.6	758.9	755.9	747.0	737.4	724.9	718.2
32.5°	753.0	750.0	745.6	740.4	733.0	730.0	725.6	714.5	701.9	693.0	682.7
35°	724.1	721.2	714.5	709.3	699.0	696.0	691.6	682.0	667.9	657.5	648.7
37.5°	692.3	688.6	683.4	676.0	667.2	663.5	657.5	647.9	631.7	621.3	610.2
40°	661.2	656.1	650.1	642.0	633.1	629.4	624.3	610.2	596.9	585.1	575.4
42.5°	630.2	624.3	616.9	609.5	599.9	594.7	588.8	575.4	560.7	549.6	536.2
45°	595.4	591.0	583.6	574.7	563.6	559.9	553.3	539.2	524.4	512.6	499.3
47.5°	561.4	556.2	548.8	539.9	528.8	523.7	517.0	503.0	488.2	473.4	461.5
50°	526.6	521.4	512.6	503.7	493.3	486.7	480.8	466.7	450.4	437.1	422.3
52.5°	489.6	485.2	477.8	468.9	455.6	450.4	444.5	429.0	413.5	397.9	384.6
55°	454.1	451.2	442.3	433.4	419.4	413.5	407.5	391.3	375.7	360.2	347.6
57.5°	417.2	414.9	406.1	395.7	383.1	377.2	369.8	353.5	338.8	323.2	309.9
60°	380.2	378.0	369.1	358.7	346.9	339.5	331.4	318.8	301.8	287.7	272.9
62.5°	344.7	341.7	334.3	323.2	309.9	302.5	295.1	280.3	264.8	250.0	236.7
65°	308.4	304.7	295.9	284.8	272.2	265.5	258.1	244.1	228.5	214.5	201.9
67.5°	272.2	268.5	258.9	250.0	235.2	228.5	221.9	207.8	193.0	179.0	167.2
70°	235.2	231.5	224.1	212.3	199.7	193.0	186.4	171.6	158.3	147.9	136.8
72.5°	199.0	196.0	188.6	177.5	165.7	159.0	151.6	139.1	127.2	116.1	108.0
75°	164.2	159.8	153.1	142.8	130.9	125.0	119.8	107.2	96.2	88.8	82.1
77.5°	130.9	125.7	118.3	110.2	99.1	93.2	88.0	77.7	70.3	65.1	63.6
80°	96.2	95.4	88.0	79.1	69.5	65.1	59.9	53.3	51.0	50.3	48.8
82.5°	67.3	64.3	58.4	50.3	42.9	39.9	38.5	37.0	35.5	35.5	34.0
85°	40.7	37.7	32.5	25.9	24.4	23.7	22.9	22.9	22.2	21.4	21.4
87.5°	17.8	14.8	11.1	10.4	9.6	9.6	10.4	10.4	10.4	9.6	9.6
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°	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0	963.0
2.5°	955.6	959.3	961.5	962.3	962.3	962.3	963.0	963.0	962.3	961.5
5°	950.4	954.1	955.6	957.1	957.1	957.1	957.1	957.1	956.4	954.9
7.5°	942.3	944.5	946.7	946.0	946.0	945.3	944.5	945.3	943.8	943.8
10°	927.5	929.7	931.2	929.0	929.0	929.7	929.7	929.0	926.8	924.6
12.5°	910.5	912.7	910.5	911.2	909.8	908.3	907.5	906.8	904.6	903.1
15°	888.3	888.3	886.8	886.8	884.6	881.7	880.9	881.7	878.7	878.7
17.5°	863.9	862.4	860.2	858.7	858.0	858.0	855.0	855.0	851.3	850.6
20°	837.3	835.8	833.6	829.9	828.4	829.1	826.2	824.0	821.7	821.0
22.5°	809.2	805.5	803.3	799.6	796.6	796.6	794.4	790.7	788.5	786.2
25°	777.4	773.7	769.2	766.3	764.1	760.4	758.9	755.9	753.7	753.0
27.5°	744.8	738.9	733.0	730.0	728.5	724.1	721.9	720.4	716.0	715.2
30°	710.1	705.6	698.2	693.0	689.3	690.1	684.9	682.0	679.7	677.5
32.5°	676.8	669.4	662.0	655.3	650.9	650.1	645.0	642.0	639.8	637.6
35°	639.1	631.7	622.8	616.9	612.4	610.2	605.0	603.5	599.9	598.4
37.5°	601.3	593.2	584.3	576.9	574.0	568.8	566.6	562.9	559.9	559.9
40°	564.3	554.7	545.9	537.0	533.3	530.3	524.4	521.4	517.8	515.5
42.5°	525.9	514.8	506.7	498.5	493.3	491.1	484.5	480.8	477.1	476.3
45°	487.4	476.3	466.0	457.8	455.6	451.2	444.5	439.3	438.6	437.9
47.5°	448.2	437.1	427.5	418.6	415.7	410.5	406.1	402.4	397.9	395.7
50°	410.5	399.4	389.1	379.4	375.7	371.3	366.9	361.7	360.2	358.0
52.5°	372.8	360.2	349.1	340.2	337.3	333.6	328.4	324.0	321.7	320.3
55°	334.3	321.7	312.1	303.3	299.6	297.3	291.4	287.7	284.8	283.3
57.5°	296.6	284.0	275.1	268.5	263.3	261.1	255.2	251.5	250.0	249.3
60°	261.1	249.3	239.6	233.0	228.5	226.3	221.9	218.2	216.0	215.2
62.5°	225.6	215.2	206.4	199.7	196.7	193.8	190.1	187.1	184.9	184.9
65°	191.6	181.2	173.1	167.9	164.9	163.5	159.0	157.5	155.3	155.3
67.5°	158.3	150.9	145.0	138.3	136.1	136.1	131.7	130.2	128.7	128.7
70°	129.4	122.8	116.1	112.4	110.2	109.5	105.8	103.6	102.1	100.6
72.5°	101.3	95.4	89.5	88.8	88.8	88.0	88.0	86.5	86.5	87.3
75°	77.7	76.2	74.7	74.7	74.0	73.2	73.2	72.5	72.5	72.5
77.5°	62.1	61.4	60.7	59.9	59.9	59.2	58.4	58.4	58.4	58.4
80°	47.3	46.6	46.6	45.9	45.1	45.9	45.1	45.1	44.4	44.4
82.5°	33.3	33.3	33.3	32.5	32.5	32.5	32.5	31.8	31.8	32.5
85°	20.7	20.7	20.7	20.7	20.0	20.7	20.0	20.0	20.0	20.7
87.5°	8.9	9.6	8.9	9.6	9.6	8.9	8.9	8.9	8.9	8.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)