

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: P243386

Luminaire Tested: **S123RDR-H560D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243386
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-H560D927-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: 1552.5 lumens
Efficiency: N/A
Efficacy: 90.3 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

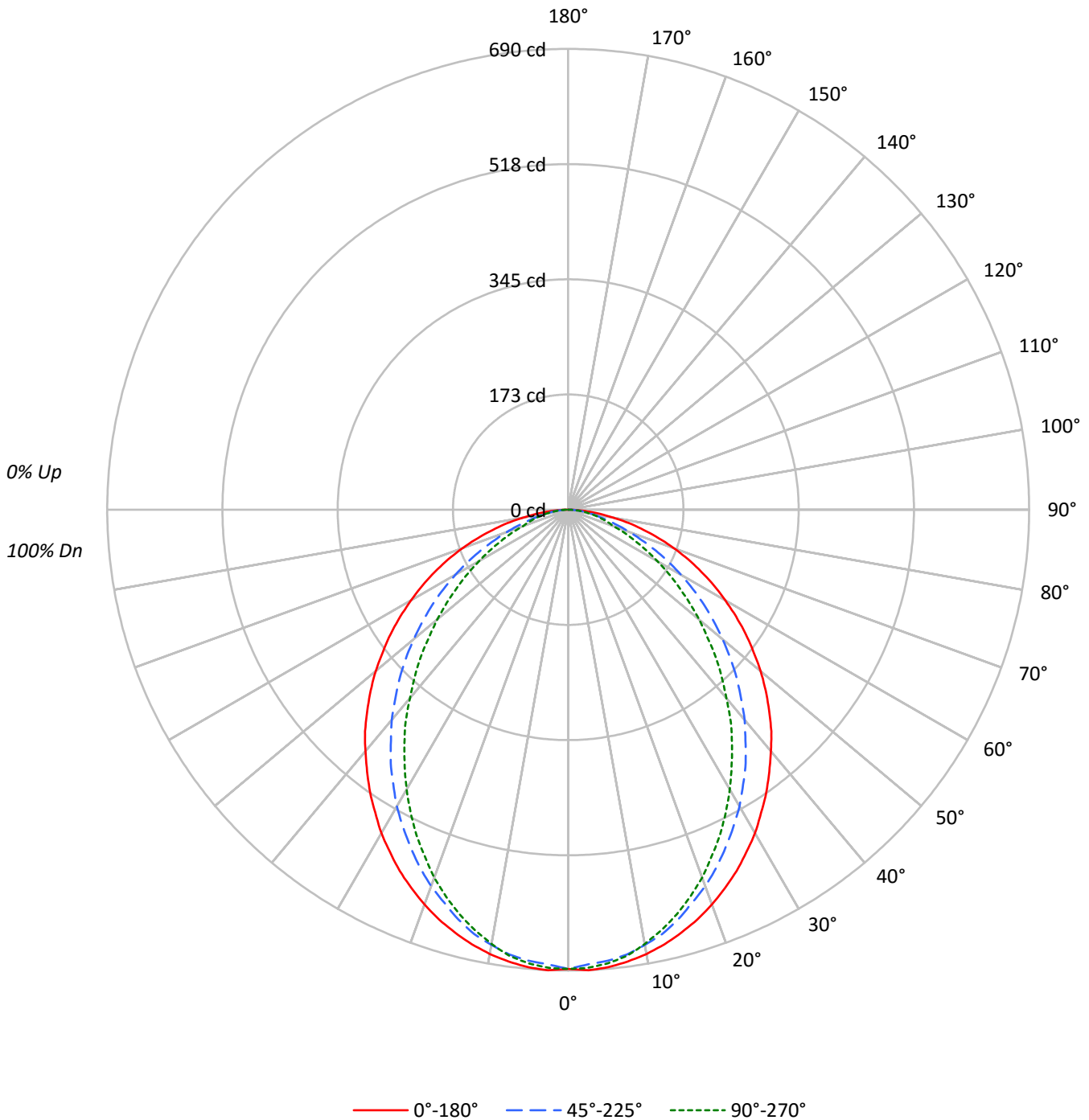
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8335	8335	8335
5°	8366	8251	8296
10°	8314	8144	8126
15°	8224	7972	7873
20°	8114	7739	7561
25°	7982	7459	7190
30°	7828	7177	6771
35°	7650	6854	6323
40°	7472	6502	5824
45°	7287	6111	5360
50°	7090	5687	4820
55°	6853	5245	4275
60°	6582	4725	3726
65°	6316	4136	3181
70°	5950	3462	2545
75°	5489	2744	2426
80°	4795	2436	2213
85°	4033	2128	2058



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.7	4.2
10°-20°	180.1	11.6
20°-30°	259.3	16.7
30°-40°	292.0	18.8
40°-50°	279.0	18.0
50°-60°	228.1	14.7
60°-70°	153.2	9.9
70°-80°	76.4	4.9
80°-90°	19.8	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°	504.0	32.5
0°-40°	796.1	51.3
0°-60°	1303.2	83.9
0°-90°	1552.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1552.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	688	685	678	683	682	65
15°	655	651	635	632	627	185
25°	597	584	558	546	538	275
35°	517	497	463	437	427	323
45°	425	400	356	325	313	328
55°	324	295	248	214	202	290
65°	220	190	144	118	111	218
75°	117	89	59	53	52	124
85°	29	17	15	14	15	34
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°	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6
2.5°	690.3	688.7	686.6	687.1	687.6	688.2	688.2	687.6	686.0	683.9	681.3
5°	687.6	686.0	683.9	683.9	685.0	685.0	685.0	684.5	682.9	680.8	678.1
7.5°	682.3	681.3	678.7	679.2	679.7	679.7	679.7	679.2	677.1	674.4	671.8
10°	675.5	673.9	671.8	671.8	672.3	672.3	672.3	671.3	668.6	665.4	661.7
12.5°	666.5	664.9	662.8	662.8	662.8	662.8	662.8	661.2	657.0	653.8	650.7
15°	655.4	653.8	651.7	651.7	651.2	650.7	649.6	647.0	643.3	639.6	635.3
17.5°	643.3	641.2	638.5	638.0	637.5	636.9	635.3	633.8	628.5	623.2	616.9
20°	629.0	626.9	624.3	623.7	622.1	620.6	619.5	616.3	610.5	604.2	600.0
22.5°	613.2	611.0	608.4	607.4	604.2	603.1	601.5	596.8	590.5	584.6	579.9
25°	596.8	594.1	591.0	589.4	585.7	583.6	583.1	576.2	569.9	563.5	557.7
27.5°	577.8	575.7	573.0	569.9	566.2	563.5	562.5	556.1	548.2	540.8	535.5
30°	559.3	556.1	553.5	549.8	544.5	541.9	539.8	533.4	526.5	517.6	512.8
32.5°	537.6	535.5	532.4	528.7	523.4	521.3	518.1	510.2	501.2	494.9	487.5
35°	517.0	514.9	510.2	506.5	499.1	497.0	493.8	486.9	476.9	469.5	463.2
37.5°	494.3	491.7	488.0	482.7	476.4	473.7	469.5	462.6	451.0	443.6	435.7
40°	472.2	468.5	464.2	458.4	452.1	449.4	445.7	435.7	426.2	417.8	410.9
42.5°	450.0	445.7	440.5	435.2	428.3	424.6	420.4	410.9	400.3	392.4	382.9
45°	425.1	422.0	416.7	410.4	402.4	399.8	395.0	385.0	374.4	366.0	356.5
47.5°	400.9	397.2	391.9	385.5	377.6	373.9	369.2	359.1	348.6	338.0	329.6
50°	376.0	372.3	366.0	359.7	352.3	347.5	343.3	333.3	321.6	312.1	301.6
52.5°	349.6	346.5	341.2	334.8	325.3	321.6	317.4	306.3	295.2	284.1	274.6
55°	324.3	322.2	315.8	309.5	299.5	295.2	291.0	279.4	268.3	257.2	248.2
57.5°	297.9	296.3	289.9	282.6	273.6	269.3	264.1	252.4	241.9	230.8	221.3
60°	271.5	269.9	263.5	256.1	247.7	242.4	236.6	227.6	215.5	205.4	194.9
62.5°	246.1	244.0	238.7	230.8	221.3	216.0	210.7	200.2	189.1	178.5	169.0
65°	220.2	217.6	211.3	203.3	194.4	189.6	184.3	174.3	163.2	153.2	144.2
67.5°	194.4	191.7	184.8	178.5	167.9	163.2	158.4	148.4	137.8	127.8	119.4
70°	167.9	165.3	160.0	151.6	142.6	137.8	133.1	122.5	113.0	105.6	97.7
72.5°	142.1	140.0	134.7	126.8	118.3	113.5	108.3	99.3	90.8	82.9	77.1
75°	117.2	114.1	109.3	101.9	93.5	89.3	85.6	76.6	68.7	63.4	58.6
77.5°	93.5	89.8	84.5	78.7	70.8	66.5	62.8	55.5	50.2	46.5	45.4
80°	68.7	68.1	62.8	56.5	49.6	46.5	42.8	38.0	36.4	35.9	34.9
82.5°	48.1	45.9	41.7	35.9	30.6	28.5	27.5	26.4	25.4	25.4	24.3
85°	29.0	26.9	23.2	18.5	17.4	16.9	16.4	16.4	15.8	15.3	15.3
87.5°	12.7	10.6	7.9	7.4	6.9	6.9	7.4	7.4	7.4	6.9	6.9
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°	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6	687.6
2.5°	682.3	685.0	686.6	687.1	687.1	687.1	687.6	687.6	687.1	686.6
5°	678.7	681.3	682.3	683.4	683.4	683.4	683.4	683.4	682.9	681.8
7.5°	672.8	674.4	676.0	675.5	675.5	675.0	674.4	675.0	673.9	673.9
10°	662.3	663.9	664.9	663.3	663.3	663.9	663.9	663.3	661.7	660.2
12.5°	650.1	651.7	650.1	650.7	649.6	648.5	648.0	647.5	645.9	644.8
15°	634.3	634.3	633.2	633.2	631.6	629.5	629.0	629.5	627.4	627.4
17.5°	616.9	615.8	614.2	613.2	612.6	612.6	610.5	610.5	607.9	607.4
20°	597.8	596.8	595.2	592.6	591.5	592.0	589.9	588.3	586.8	586.2
22.5°	577.8	575.1	573.6	570.9	568.8	568.8	567.2	564.6	563.0	561.4
25°	555.1	552.4	549.3	547.1	545.6	542.9	541.9	539.8	538.2	537.6
27.5°	531.8	527.6	523.4	521.3	520.2	517.0	515.5	514.4	511.2	510.7
30°	507.0	503.8	498.6	494.9	492.2	492.7	489.1	486.9	485.4	483.8
32.5°	483.2	478.0	472.7	467.9	464.8	464.2	460.5	458.4	456.8	455.3
35°	456.3	451.0	444.7	440.5	437.3	435.7	432.0	431.0	428.3	427.3
37.5°	429.4	423.6	417.2	411.9	409.8	406.1	404.5	401.9	399.8	399.8
40°	403.0	396.1	389.8	383.4	380.8	378.7	374.4	372.3	369.7	368.1
42.5°	375.5	367.6	361.8	356.0	352.3	350.7	345.9	343.3	340.6	340.1
45°	348.0	340.1	332.7	326.9	325.3	322.2	317.4	313.7	313.2	312.7
47.5°	320.0	312.1	305.3	298.9	296.8	293.1	289.9	287.3	284.1	282.6
50°	293.1	285.2	277.8	270.9	268.3	265.1	262.0	258.3	257.2	255.6
52.5°	266.2	257.2	249.3	242.9	240.8	238.2	234.5	231.3	229.7	228.7
55°	238.7	229.7	222.9	216.5	213.9	212.3	208.1	205.4	203.3	202.3
57.5°	211.8	202.8	196.5	191.7	188.0	186.4	182.2	179.6	178.5	178.0
60°	186.4	178.0	171.1	166.4	163.2	161.6	158.4	155.8	154.2	153.7
62.5°	161.1	153.7	147.3	142.6	140.5	138.4	135.7	133.6	132.0	132.0
65°	136.8	129.4	123.6	119.9	117.8	116.7	113.5	112.5	110.9	110.9
67.5°	113.0	107.7	103.5	98.8	97.2	97.2	94.0	93.0	91.9	91.9
70°	92.4	87.7	82.9	80.3	78.7	78.2	75.5	73.9	72.9	71.8
72.5°	72.4	68.1	63.9	63.4	63.4	62.8	62.8	61.8	61.8	62.3
75°	55.5	54.4	53.3	53.3	52.8	52.3	52.3	51.8	51.8	51.8
77.5°	44.4	43.8	43.3	42.8	42.8	42.3	41.7	41.7	41.7	41.7
80°	33.8	33.3	33.3	32.7	32.2	32.7	32.2	32.2	31.7	31.7
82.5°	23.8	23.8	23.8	23.2	23.2	23.2	23.2	22.7	22.7	23.2
85°	14.8	14.8	14.8	14.8	14.3	14.8	14.3	14.3	14.3	14.8
87.5°	6.3	6.9	6.3	6.9	6.9	6.3	6.3	6.3	6.3	6.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)