

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: P243404

Luminaire Tested: **S123RDR-H340D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243404
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-H340D930-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: 1003.3 lumens
Efficiency: N/A
Efficacy: 89.6 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

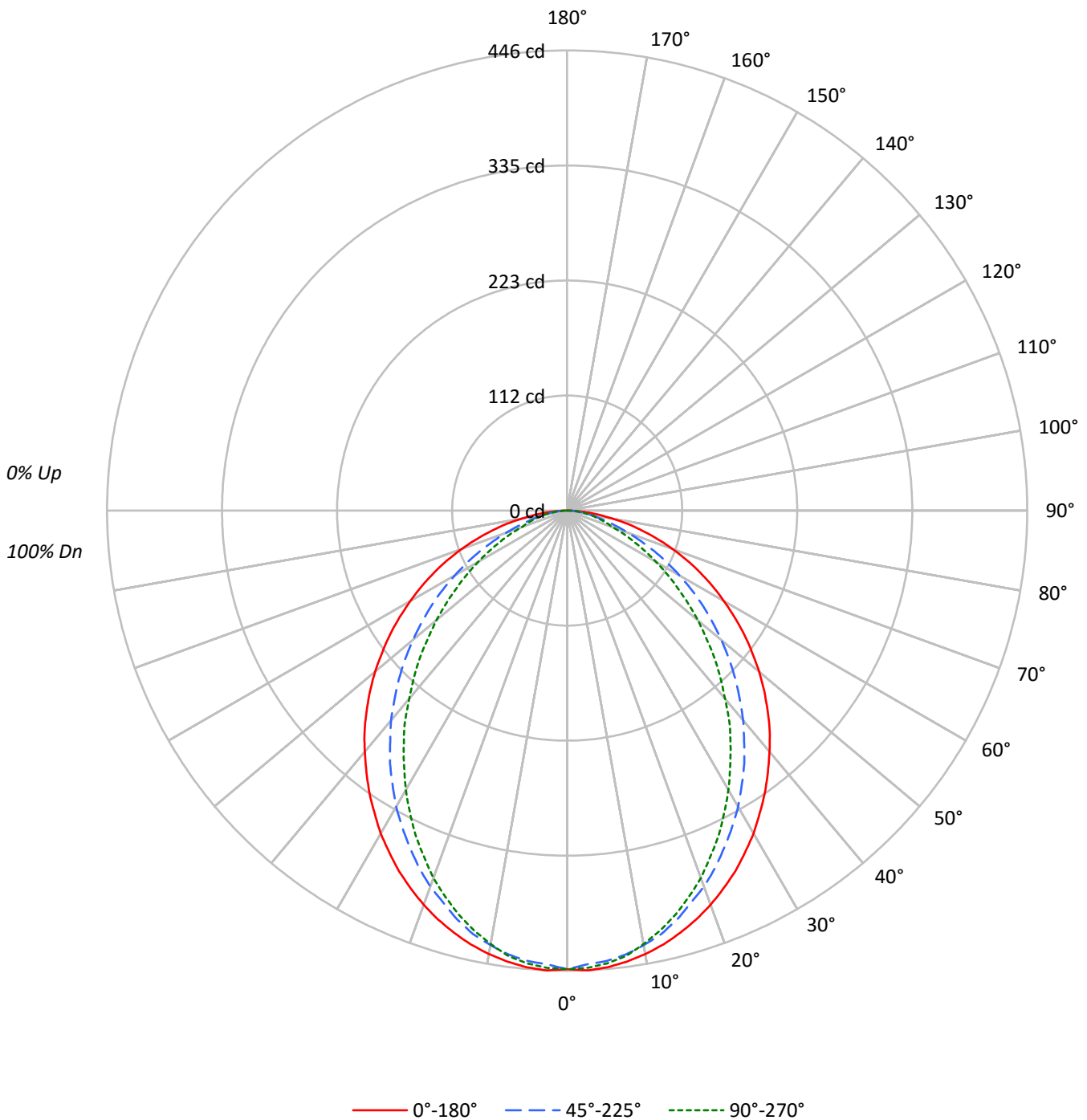
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5387	5387	5387
5°	5407	5332	5361
10°	5373	5264	5251
15°	5316	5153	5089
20°	5243	5001	4887
25°	5158	4820	4648
30°	5058	4638	4375
35°	4944	4429	4086
40°	4828	4201	3764
45°	4711	3950	3464
50°	4582	3675	3115
55°	4429	3390	2762
60°	4252	3052	2407
65°	4081	2673	2056
70°	3845	2236	1644
75°	3550	1775	1564
80°	3099	1571	1431
85°	2615	1377	1335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.8	4.2
10°-20°	116.4	11.6
20°-30°	167.6	16.7
30°-40°	188.7	18.8
40°-50°	180.3	18.0
50°-60°	147.4	14.7
60°-70°	99.0	9.9
70°-80°	49.4	4.9
80°-90°	12.8	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°	325.7	32.5
0°-40°	514.5	51.3
0°-60°	842.2	83.9
0°-90°	1003.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1003.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	444	443	438	442	441	42
15°	424	420	411	408	406	119
25°	386	377	360	353	348	178
35°	334	321	299	283	276	209
45°	275	258	230	210	202	212
55°	210	191	160	138	131	187
65°	142	122	93	76	72	141
75°	76	58	38	34	33	80
85°	19	11	10	9	10	22
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°	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4
2.5°	446.1	445.1	443.7	444.0	444.4	444.7	444.7	444.4	443.4	442.0	440.3
5°	444.4	443.4	442.0	442.0	442.7	442.7	442.7	442.3	441.3	439.9	438.2
7.5°	441.0	440.3	438.6	438.9	439.3	439.3	439.3	438.9	437.6	435.9	434.1
10°	436.5	435.5	434.1	434.1	434.5	434.5	434.5	433.8	432.1	430.0	427.7
12.5°	430.7	429.7	428.3	428.3	428.3	428.3	428.3	427.3	424.6	422.5	420.5
15°	423.6	422.5	421.2	421.2	420.8	420.5	419.8	418.1	415.7	413.3	410.6
17.5°	415.7	414.3	412.6	412.3	412.0	411.6	410.6	409.6	406.2	402.7	398.6
20°	406.5	405.1	403.4	403.1	402.1	401.0	400.4	398.3	394.6	390.5	387.7
22.5°	396.3	394.9	393.2	392.5	390.5	389.8	388.8	385.7	381.6	377.8	374.8
25°	385.7	384.0	381.9	380.9	378.5	377.1	376.8	372.4	368.3	364.2	360.4
27.5°	373.4	372.0	370.3	368.3	365.9	364.2	363.5	359.4	354.3	349.5	346.1
30°	361.4	359.4	357.7	355.3	351.9	350.2	348.8	344.7	340.3	334.5	331.4
32.5°	347.5	346.1	344.0	341.7	338.2	336.9	334.8	329.7	323.9	319.8	315.0
35°	334.1	332.8	329.7	327.3	322.5	321.2	319.1	314.7	308.2	303.4	299.3
37.5°	319.5	317.8	315.4	312.0	307.9	306.2	303.4	299.0	291.5	286.7	281.6
40°	305.1	302.7	300.0	296.3	292.2	290.5	288.1	281.6	275.4	270.0	265.5
42.5°	290.8	288.1	284.7	281.2	276.8	274.4	271.7	265.5	258.7	253.6	247.4
45°	274.8	272.7	269.3	265.2	260.1	258.4	255.3	248.8	242.0	236.5	230.4
47.5°	259.1	256.7	253.3	249.2	244.0	241.6	238.6	232.1	225.3	218.4	213.0
50°	243.0	240.6	236.5	232.4	227.7	224.6	221.9	215.4	207.9	201.7	194.9
52.5°	225.9	223.9	220.5	216.4	210.2	207.9	205.1	198.0	190.8	183.6	177.5
55°	209.6	208.2	204.1	200.0	193.5	190.8	188.1	180.6	173.4	166.2	160.4
57.5°	192.5	191.5	187.4	182.6	176.8	174.1	170.7	163.1	156.3	149.2	143.0
60°	175.4	174.4	170.3	165.5	160.1	156.7	152.9	147.1	139.3	132.8	125.9
62.5°	159.1	157.7	154.3	149.2	143.0	139.6	136.2	129.4	122.2	115.4	109.2
65°	142.3	140.6	136.5	131.4	125.6	122.5	119.1	112.6	105.5	99.0	93.2
67.5°	125.6	123.9	119.5	115.4	108.5	105.5	102.4	95.9	89.1	82.6	77.1
70°	108.5	106.8	103.4	98.0	92.2	89.1	86.0	79.2	73.0	68.3	63.1
72.5°	91.8	90.4	87.0	81.9	76.5	73.4	70.0	64.2	58.7	53.6	49.8
75°	75.8	73.7	70.7	65.9	60.4	57.7	55.3	49.5	44.4	41.0	37.9
77.5°	60.4	58.0	54.6	50.9	45.7	43.0	40.6	35.8	32.4	30.0	29.4
80°	44.4	44.0	40.6	36.5	32.1	30.0	27.6	24.6	23.6	23.2	22.5
82.5°	31.1	29.7	27.0	23.2	19.8	18.4	17.7	17.1	16.4	16.4	15.7
85°	18.8	17.4	15.0	11.9	11.3	10.9	10.6	10.6	10.2	9.9	9.9
87.5°	8.2	6.8	5.1	4.8	4.4	4.4	4.8	4.8	4.8	4.4	4.4
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°	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4	444.4
2.5°	441.0	442.7	443.7	444.0	444.0	444.0	444.4	444.4	444.0	443.7
5°	438.6	440.3	441.0	441.7	441.7	441.7	441.7	441.7	441.3	440.6
7.5°	434.8	435.9	436.9	436.5	436.5	436.2	435.9	436.2	435.5	435.5
10°	428.0	429.0	429.7	428.7	428.7	429.0	429.0	428.7	427.7	426.6
12.5°	420.2	421.2	420.2	420.5	419.8	419.1	418.8	418.4	417.4	416.7
15°	409.9	409.9	409.2	409.2	408.2	406.8	406.5	406.8	405.5	405.5
17.5°	398.6	398.0	396.9	396.3	395.9	395.9	394.6	394.6	392.8	392.5
20°	386.4	385.7	384.7	382.9	382.3	382.6	381.2	380.2	379.2	378.9
22.5°	373.4	371.7	370.7	369.0	367.6	367.6	366.6	364.9	363.8	362.8
25°	358.7	357.0	355.0	353.6	352.6	350.9	350.2	348.8	347.8	347.5
27.5°	343.7	341.0	338.2	336.9	336.2	334.1	333.1	332.4	330.4	330.0
30°	327.7	325.6	322.2	319.8	318.1	318.4	316.1	314.7	313.7	312.6
32.5°	312.3	308.9	305.5	302.4	300.4	300.0	297.6	296.3	295.2	294.2
35°	294.9	291.5	287.4	284.7	282.6	281.6	279.2	278.5	276.8	276.1
37.5°	277.5	273.7	269.6	266.2	264.9	262.5	261.4	259.7	258.4	258.4
40°	260.4	256.0	251.9	247.8	246.1	244.7	242.0	240.6	238.9	237.9
42.5°	242.7	237.6	233.8	230.0	227.7	226.6	223.6	221.9	220.1	219.8
45°	224.9	219.8	215.0	211.3	210.2	208.2	205.1	202.7	202.4	202.1
47.5°	206.8	201.7	197.3	193.2	191.8	189.4	187.4	185.7	183.6	182.6
50°	189.4	184.3	179.5	175.1	173.4	171.3	169.3	166.9	166.2	165.2
52.5°	172.0	166.2	161.1	157.0	155.6	153.9	151.5	149.5	148.5	147.8
55°	154.3	148.5	144.0	139.9	138.2	137.2	134.5	132.8	131.4	130.7
57.5°	136.9	131.1	127.0	123.9	121.5	120.5	117.8	116.0	115.4	115.0
60°	120.5	115.0	110.6	107.5	105.5	104.4	102.4	100.7	99.7	99.3
62.5°	104.1	99.3	95.2	92.2	90.8	89.4	87.7	86.4	85.3	85.3
65°	88.4	83.6	79.9	77.5	76.1	75.4	73.4	72.7	71.7	71.7
67.5°	73.0	69.6	66.9	63.8	62.8	62.8	60.8	60.1	59.4	59.4
70°	59.7	56.7	53.6	51.9	50.9	50.5	48.8	47.8	47.1	46.4
72.5°	46.8	44.0	41.3	41.0	41.0	40.6	40.6	39.9	39.9	40.3
75°	35.8	35.2	34.5	34.5	34.1	33.8	33.8	33.4	33.4	33.4
77.5°	28.7	28.3	28.0	27.6	27.6	27.3	27.0	27.0	27.0	27.0
80°	21.8	21.5	21.5	21.2	20.8	21.2	20.8	20.8	20.5	20.5
82.5°	15.4	15.4	15.4	15.0	15.0	15.0	15.0	14.7	14.7	15.0
85°	9.6	9.6	9.6	9.6	9.2	9.6	9.2	9.2	9.2	9.6
87.5°	4.1	4.4	4.1	4.4	4.4	4.1	4.1	4.1	4.1	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)