

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: P243414

Luminaire Tested: **S123RDR-H340D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243414
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-H340D940-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: 1097.4 lumens
Efficiency: N/A
Efficacy: 98.0 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

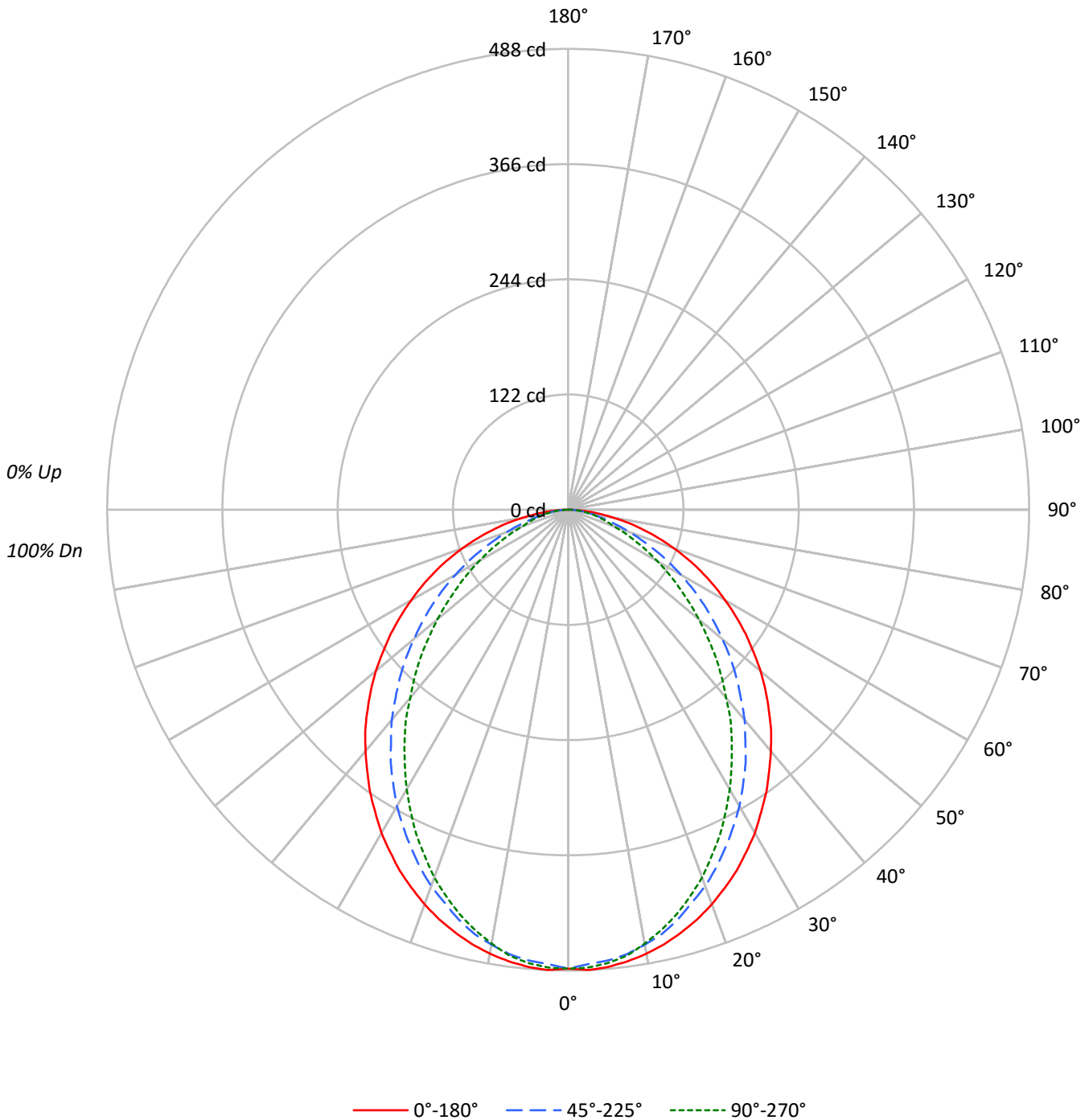
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5891	5891	5891
5°	5913	5832	5864
10°	5876	5757	5743
15°	5814	5636	5565
20°	5735	5471	5345
25°	5641	5272	5082
30°	5533	5074	4785
35°	5408	4845	4469
40°	5280	4595	4117
45°	5151	4320	3788
50°	5012	4020	3408
55°	4844	3707	3022
60°	4652	3338	2633
65°	4466	2923	2249
70°	4207	2449	1800
75°	3882	1939	1714
80°	3385	1717	1564
85°	2851	1502	1460



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.7	4.2
10°-20°	127.3	11.6
20°-30°	183.3	16.7
30°-40°	206.4	18.8
40°-50°	197.2	18.0
50°-60°	161.2	14.7
60°-70°	108.3	9.9
70°-80°	54.0	4.9
80°-90°	14.0	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°	356.3	32.5
0°-40°	562.7	51.3
0°-60°	921.1	83.9
0°-90°	1097.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1097.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	486	484	479	483	482	46
15°	463	460	449	446	444	131
25°	422	412	394	386	380	194
35°	366	351	327	309	302	228
45°	300	283	252	230	221	232
55°	229	209	175	151	143	205
65°	156	134	102	83	78	154
75°	83	63	41	37	37	88
85°	20	12	11	10	10	24
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°	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0
2.5°	487.9	486.8	485.3	485.7	486.0	486.4	486.4	486.0	484.9	483.4	481.6
5°	486.0	484.9	483.4	483.4	484.2	484.2	484.2	483.8	482.7	481.2	479.3
7.5°	482.3	481.6	479.7	480.1	480.4	480.4	480.4	480.1	478.6	476.7	474.8
10°	477.4	476.3	474.8	474.8	475.2	475.2	475.2	474.5	472.6	470.4	467.7
12.5°	471.1	470.0	468.5	468.5	468.5	468.5	468.5	467.4	464.4	462.1	459.9
15°	463.3	462.1	460.6	460.6	460.3	459.9	459.2	457.3	454.7	452.1	449.1
17.5°	454.7	453.2	451.3	450.9	450.6	450.2	449.1	448.0	444.2	440.5	436.0
20°	444.6	443.1	441.2	440.9	439.7	438.6	437.9	435.6	431.5	427.1	424.1
22.5°	433.4	431.9	430.0	429.3	427.1	426.3	425.2	421.8	417.3	413.2	409.9
25°	421.8	420.0	417.7	416.6	414.0	412.5	412.1	407.3	402.8	398.3	394.2
27.5°	408.4	406.9	405.0	402.8	400.2	398.3	397.6	393.1	387.5	382.3	378.5
30°	395.3	393.1	391.2	388.6	384.9	383.0	381.5	377.0	372.2	365.8	362.5
32.5°	380.0	378.5	376.3	373.7	369.9	368.4	366.2	360.6	354.3	349.8	344.6
35°	365.5	364.0	360.6	358.0	352.8	351.3	349.0	344.2	337.1	331.9	327.4
37.5°	349.4	347.5	344.9	341.2	336.7	334.8	331.9	327.0	318.8	313.6	308.0
40°	333.7	331.1	328.1	324.0	319.5	317.7	315.1	308.0	301.3	295.3	290.4
42.5°	318.0	315.1	311.3	307.6	302.7	300.1	297.1	290.4	283.0	277.4	270.6
45°	300.5	298.3	294.5	290.1	284.5	282.6	279.2	272.1	264.7	258.7	252.0
47.5°	283.3	280.7	277.0	272.5	266.9	264.3	260.9	253.8	246.4	238.9	232.9
50°	265.8	263.2	258.7	254.2	249.0	245.6	242.6	235.6	227.3	220.6	213.2
52.5°	247.1	244.9	241.2	236.7	230.0	227.3	224.4	216.5	208.7	200.8	194.1
55°	229.2	227.7	223.2	218.8	211.7	208.7	205.7	197.5	189.6	181.8	175.4
57.5°	210.5	209.4	204.9	199.7	193.4	190.4	186.6	178.4	171.0	163.1	156.4
60°	191.9	190.8	186.3	181.0	175.1	171.3	167.2	160.9	152.3	145.2	137.7
62.5°	174.0	172.5	168.7	163.1	156.4	152.7	148.9	141.5	133.6	126.2	119.5
65°	155.7	153.8	149.3	143.7	137.4	134.0	130.3	123.2	115.3	108.3	101.9
67.5°	137.4	135.5	130.7	126.2	118.7	115.3	112.0	104.9	97.4	90.3	84.4
70°	118.7	116.8	113.1	107.1	100.8	97.4	94.1	86.6	79.9	74.7	69.1
72.5°	100.4	98.9	95.2	89.6	83.6	80.3	76.5	70.2	64.2	58.6	54.5
75°	82.9	80.6	77.3	72.0	66.1	63.1	60.5	54.1	48.5	44.8	41.4
77.5°	66.1	63.5	59.7	55.6	50.0	47.0	44.4	39.2	35.5	32.9	32.1
80°	48.5	48.2	44.4	39.9	35.1	32.9	30.2	26.9	25.8	25.4	24.6
82.5°	34.0	32.5	29.5	25.4	21.7	20.2	19.4	18.7	17.9	17.9	17.2
85°	20.5	19.0	16.4	13.1	12.3	11.9	11.6	11.6	11.2	10.8	10.8
87.5°	9.0	7.5	5.6	5.2	4.9	4.9	5.2	5.2	5.2	4.9	4.9
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°	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0	486.0
2.5°	482.3	484.2	485.3	485.7	485.7	485.7	486.0	486.0	485.7	485.3
5°	479.7	481.6	482.3	483.0	483.0	483.0	483.0	483.0	482.7	481.9
7.5°	475.6	476.7	477.8	477.4	477.4	477.1	476.7	477.1	476.3	476.3
10°	468.1	469.2	470.0	468.9	468.9	469.2	469.2	468.9	467.7	466.6
12.5°	459.5	460.6	459.5	459.9	459.2	458.4	458.0	457.7	456.5	455.8
15°	448.3	448.3	447.6	447.6	446.5	445.0	444.6	445.0	443.5	443.5
17.5°	436.0	435.3	434.1	433.4	433.0	433.0	431.5	431.5	429.7	429.3
20°	422.6	421.8	420.7	418.8	418.1	418.5	417.0	415.9	414.7	414.4
22.5°	408.4	406.5	405.4	403.5	402.0	402.0	400.9	399.1	397.9	396.8
25°	392.3	390.5	388.2	386.7	385.6	383.7	383.0	381.5	380.4	380.0
27.5°	375.9	372.9	369.9	368.4	367.7	365.5	364.3	363.6	361.4	361.0
30°	358.4	356.1	352.4	349.8	347.9	348.3	345.7	344.2	343.1	341.9
32.5°	341.6	337.8	334.1	330.7	328.5	328.1	325.5	324.0	322.9	321.8
35°	322.5	318.8	314.3	311.3	309.1	308.0	305.4	304.6	302.7	302.0
37.5°	303.5	299.4	294.9	291.2	289.7	287.1	285.9	284.1	282.6	282.6
40°	284.8	280.0	275.5	271.0	269.1	267.7	264.7	263.2	261.3	260.2
42.5°	265.4	259.8	255.7	251.6	249.0	247.9	244.5	242.6	240.8	240.4
45°	246.0	240.4	235.2	231.1	230.0	227.7	224.4	221.7	221.4	221.0
47.5°	226.2	220.6	215.8	211.3	209.8	207.2	204.9	203.1	200.8	199.7
50°	207.2	201.6	196.4	191.5	189.6	187.4	185.2	182.5	181.8	180.7
52.5°	188.1	181.8	176.2	171.7	170.2	168.4	165.7	163.5	162.4	161.6
55°	168.7	162.4	157.5	153.1	151.2	150.1	147.1	145.2	143.7	143.0
57.5°	149.7	143.3	138.9	135.5	132.9	131.8	128.8	126.9	126.2	125.8
60°	131.8	125.8	120.9	117.6	115.3	114.2	112.0	110.1	109.0	108.6
62.5°	113.9	108.6	104.2	100.8	99.3	97.8	95.9	94.4	93.3	93.3
65°	96.7	91.5	87.4	84.7	83.2	82.5	80.3	79.5	78.4	78.4
67.5°	79.9	76.2	73.2	69.8	68.7	68.7	66.4	65.7	65.0	65.0
70°	65.3	62.0	58.6	56.7	55.6	55.2	53.4	52.3	51.5	50.8
72.5°	51.1	48.2	45.2	44.8	44.8	44.4	44.4	43.7	43.7	44.0
75°	39.2	38.4	37.7	37.7	37.3	37.0	37.0	36.6	36.6	36.6
77.5°	31.4	31.0	30.6	30.2	30.2	29.9	29.5	29.5	29.5	29.5
80°	23.9	23.5	23.5	23.1	22.8	23.1	22.8	22.8	22.4	22.4
82.5°	16.8	16.8	16.8	16.4	16.4	16.4	16.4	16.1	16.1	16.4
85°	10.5	10.5	10.5	10.5	10.1	10.5	10.1	10.1	10.1	10.5
87.5°	4.5	4.9	4.5	4.9	4.9	4.5	4.5	4.5	4.5	4.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)