

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: P243409

Luminaire Tested: **S123RDR-H340D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243409
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-H340D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1059.6 lumens
Efficiency: N/A
Efficacy: 94.6 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

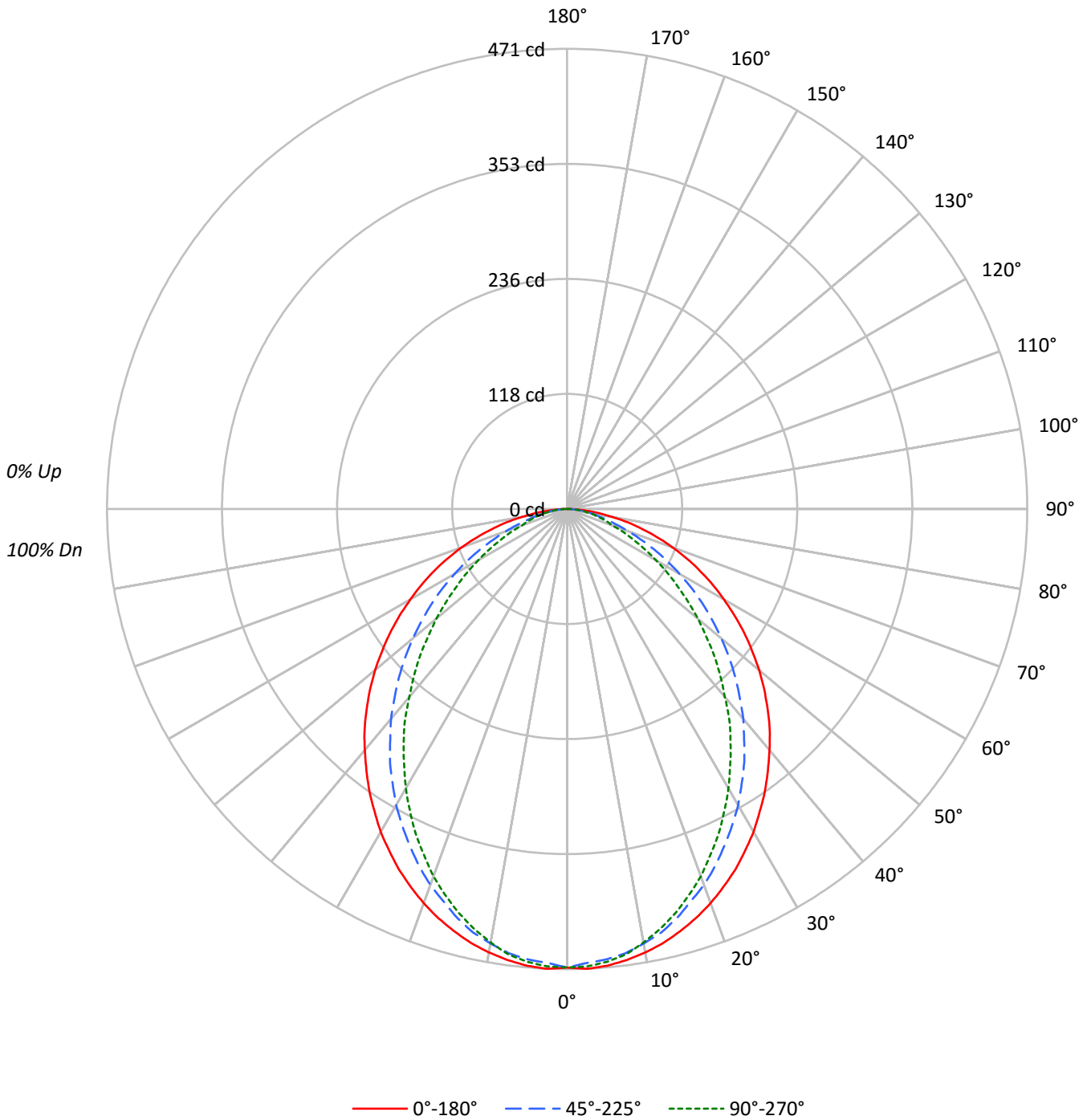
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	5688	5688	5688
5°	5710	5631	5662
10°	5674	5558	5546
15°	5613	5441	5373
20°	5538	5282	5161
25°	5447	5090	4907
30°	5342	4899	4622
35°	5222	4677	4315
40°	5098	4437	3975
45°	4975	4171	3658
50°	4839	3881	3291
55°	4677	3580	2916
60°	4492	3224	2543
65°	4311	2822	2171
70°	4061	2364	1737
75°	3747	1873	1653
80°	3274	1661	1508
85°	2754	1460	1405



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	4.2
10°-20°	122.9	11.6
20°-30°	176.9	16.7
30°-40°	199.3	18.8
40°-50°	190.4	18.0
50°-60°	155.7	14.7
60°-70°	104.5	9.9
70°-80°	52.1	4.9
80°-90°	13.5	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°	344.0	32.5
0°-40°	543.3	51.3
0°-60°	889.4	83.9
0°-90°	1059.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1059.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	469	469	469	469	469	
5°	469	468	463	466	465	45
15°	447	444	434	431	428	126
25°	407	398	381	372	367	187
35°	353	339	316	298	292	221
45°	290	273	243	222	213	224
55°	221	202	169	146	138	198
65°	150	129	98	80	76	149
75°	80	61	40	36	35	85
85°	20	12	10	10	10	23
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°	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3
2.5°	471.1	470.0	468.6	468.9	469.3	469.7	469.7	469.3	468.2	466.8	465.0
5°	469.3	468.2	466.8	466.8	467.5	467.5	467.5	467.1	466.1	464.6	462.8
7.5°	465.7	465.0	463.2	463.5	463.9	463.9	463.9	463.5	462.1	460.3	458.5
10°	461.0	459.9	458.5	458.5	458.8	458.8	458.8	458.1	456.3	454.2	451.6
12.5°	454.9	453.8	452.4	452.4	452.4	452.4	452.4	451.3	448.4	446.2	444.1
15°	447.3	446.2	444.8	444.8	444.4	444.1	443.3	441.5	439.0	436.5	433.6
17.5°	439.0	437.6	435.8	435.4	435.1	434.7	433.6	432.5	428.9	425.3	421.0
20°	429.3	427.8	426.0	425.7	424.6	423.5	422.8	420.6	416.7	412.3	409.5
22.5°	418.5	417.0	415.2	414.5	412.3	411.6	410.5	407.3	403.0	399.0	395.8
25°	407.3	405.5	403.3	402.3	399.7	398.3	397.9	393.2	388.9	384.6	380.6
27.5°	394.3	392.9	391.1	388.9	386.4	384.6	383.9	379.5	374.1	369.1	365.5
30°	381.7	379.5	377.7	375.2	371.6	369.8	368.4	364.0	359.4	353.2	350.0
32.5°	366.9	365.5	363.3	360.8	357.2	355.8	353.6	348.2	342.1	337.7	332.7
35°	352.9	351.4	348.2	345.7	340.6	339.2	337.0	332.3	325.5	320.4	316.1
37.5°	337.4	335.6	333.0	329.4	325.1	323.3	320.4	315.7	307.8	302.8	297.4
40°	322.2	319.7	316.8	312.9	308.5	306.7	304.2	297.4	290.9	285.1	280.4
42.5°	307.1	304.2	300.6	297.0	292.3	289.8	286.9	280.4	273.2	267.8	261.3
45°	290.2	288.0	284.4	280.1	274.7	272.9	269.6	262.8	255.6	249.8	243.3
47.5°	273.6	271.1	267.4	263.1	257.7	255.2	251.9	245.1	237.9	230.7	224.9
50°	256.6	254.1	249.8	245.5	240.4	237.2	234.3	227.4	219.5	213.0	205.8
52.5°	238.6	236.4	232.8	228.5	222.0	219.5	216.6	209.1	201.5	193.9	187.4
55°	221.3	219.9	215.5	211.2	204.4	201.5	198.6	190.7	183.1	175.5	169.4
57.5°	203.3	202.2	197.9	192.8	186.7	183.8	180.2	172.3	165.1	157.5	151.0
60°	185.3	184.2	179.9	174.8	169.0	165.4	161.5	155.4	147.1	140.2	133.0
62.5°	168.0	166.5	162.9	157.5	151.0	147.4	143.8	136.6	129.0	121.8	115.3
65°	150.3	148.5	144.2	138.8	132.6	129.4	125.8	118.9	111.4	104.5	98.4
67.5°	132.6	130.8	126.2	121.8	114.6	111.4	108.1	101.3	94.1	87.2	81.5
70°	114.6	112.8	109.2	103.4	97.3	94.1	90.8	83.6	77.1	72.1	66.7
72.5°	97.0	95.5	91.9	86.5	80.7	77.5	73.9	67.8	62.0	56.6	52.6
75°	80.0	77.9	74.6	69.6	63.8	60.9	58.4	52.3	46.9	43.3	40.0
77.5°	63.8	61.3	57.7	53.7	48.3	45.4	42.9	37.8	34.2	31.7	31.0
80°	46.9	46.5	42.9	38.6	33.9	31.7	29.2	26.0	24.9	24.5	23.8
82.5°	32.8	31.4	28.5	24.5	20.9	19.5	18.7	18.0	17.3	17.3	16.6
85°	19.8	18.4	15.9	12.6	11.9	11.5	11.2	11.2	10.8	10.5	10.5
87.5°	8.7	7.2	5.4	5.0	4.7	4.7	5.0	5.0	5.0	4.7	4.7
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°	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3	469.3
2.5°	465.7	467.5	468.6	468.9	468.9	468.9	469.3	469.3	468.9	468.6
5°	463.2	465.0	465.7	466.4	466.4	466.4	466.4	466.4	466.1	465.3
7.5°	459.2	460.3	461.4	461.0	461.0	460.6	460.3	460.6	459.9	459.9
10°	452.0	453.1	453.8	452.7	452.7	453.1	453.1	452.7	451.6	450.6
12.5°	443.7	444.8	443.7	444.1	443.3	442.6	442.3	441.9	440.8	440.1
15°	432.9	432.9	432.2	432.2	431.1	429.6	429.3	429.6	428.2	428.2
17.5°	421.0	420.3	419.2	418.5	418.1	418.1	416.7	416.7	414.9	414.5
20°	408.0	407.3	406.2	404.4	403.7	404.1	402.6	401.5	400.4	400.1
22.5°	394.3	392.5	391.4	389.6	388.2	388.2	387.1	385.3	384.2	383.1
25°	378.8	377.0	374.9	373.4	372.3	370.5	369.8	368.4	367.3	366.9
27.5°	363.0	360.1	357.2	355.8	355.0	352.9	351.8	351.1	348.9	348.5
30°	346.0	343.9	340.3	337.7	335.9	336.3	333.8	332.3	331.2	330.2
32.5°	329.8	326.2	322.6	319.4	317.2	316.8	314.3	312.9	311.8	310.7
35°	311.4	307.8	303.5	300.6	298.4	297.4	294.8	294.1	292.3	291.6
37.5°	293.0	289.1	284.7	281.1	279.7	277.2	276.1	274.3	272.9	272.9
40°	275.0	270.3	266.0	261.7	259.9	258.4	255.6	254.1	252.3	251.2
42.5°	256.3	250.9	246.9	242.9	240.4	239.3	236.1	234.3	232.5	232.1
45°	237.5	232.1	227.1	223.1	222.0	219.9	216.6	214.1	213.7	213.4
47.5°	218.4	213.0	208.3	204.0	202.6	200.0	197.9	196.1	193.9	192.8
50°	200.0	194.6	189.6	184.9	183.1	180.9	178.8	176.3	175.5	174.5
52.5°	181.7	175.5	170.1	165.8	164.4	162.6	160.0	157.9	156.8	156.1
55°	162.9	156.8	152.1	147.8	146.0	144.9	142.0	140.2	138.8	138.0
57.5°	144.5	138.4	134.1	130.8	128.3	127.2	124.4	122.5	121.8	121.5
60°	127.2	121.5	116.8	113.5	111.4	110.3	108.1	106.3	105.2	104.9
62.5°	109.9	104.9	100.6	97.3	95.9	94.4	92.6	91.2	90.1	90.1
65°	93.4	88.3	84.3	81.8	80.4	79.7	77.5	76.8	75.7	75.7
67.5°	77.1	73.5	70.6	67.4	66.3	66.3	64.2	63.4	62.7	62.7
70°	63.1	59.8	56.6	54.8	53.7	53.3	51.5	50.5	49.7	49.0
72.5°	49.4	46.5	43.6	43.3	43.3	42.9	42.9	42.2	42.2	42.5
75°	37.8	37.1	36.4	36.4	36.0	35.7	35.7	35.3	35.3	35.3
77.5°	30.3	29.9	29.6	29.2	29.2	28.8	28.5	28.5	28.5	28.5
80°	23.1	22.7	22.7	22.3	22.0	22.3	22.0	22.0	21.6	21.6
82.5°	16.2	16.2	16.2	15.9	15.9	15.9	15.9	15.5	15.5	15.9
85°	10.1	10.1	10.1	10.1	9.7	10.1	9.7	9.7	9.7	10.1
87.5°	4.3	4.7	4.3	4.7	4.7	4.3	4.3	4.3	4.3	4.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)