

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P624682

Luminaire Tested: S930DIP-W327-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624682
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35539-R2)
Test Lab: INNOVATION CENTER
Issue Date: 11/3/2022
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S930DIP-W327-X4-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 4-FOOT LED WaveStream LUMINAIRE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

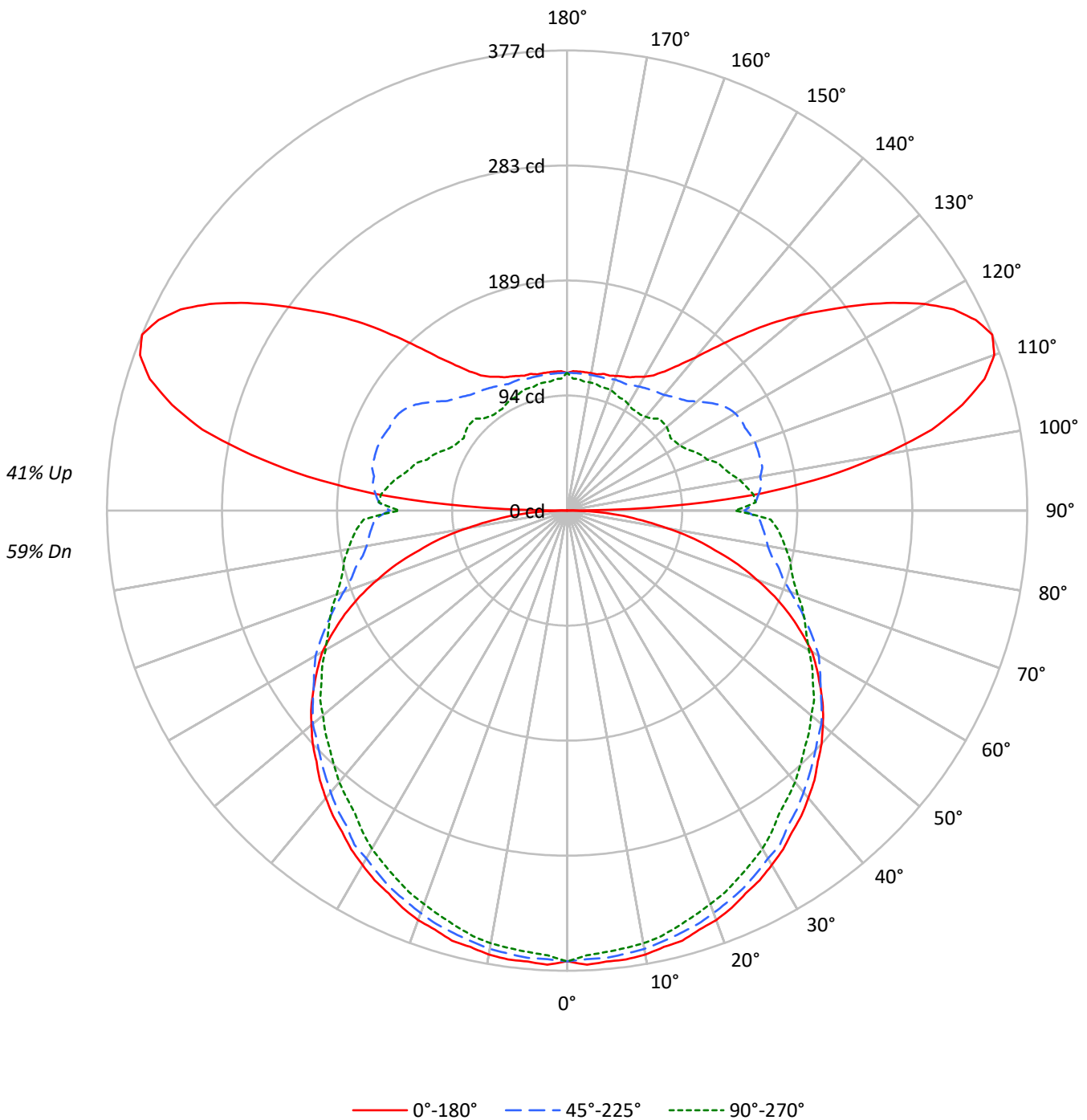
Lumens per Lamp: N/A
Luminaire Lumens: 2501.0 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 29.5
Input Voltage (V): 120
Input Current (Ain): 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: 24 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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59
1	97	92	87	82	90	85	81	77	73	70	67	63	60	58	53	51	49	44
2	87	78	71	65	81	73	67	61	63	58	53	54	50	46	45	42	39	35
3	79	68	60	53	73	63	56	50	55	49	44	46	42	38	39	35	32	28
4	72	60	51	44	66	56	48	42	48	42	37	41	36	32	34	30	27	24
5	66	53	44	37	61	49	41	35	43	36	31	36	31	27	31	27	23	20
6	61	47	38	32	56	44	36	30	38	32	27	33	28	23	28	23	20	17
7	56	43	34	28	52	40	32	26	35	28	23	30	24	21	25	21	18	15
8	52	39	30	24	48	36	29	23	31	25	21	27	22	18	23	19	16	13
9	48	35	27	22	45	33	26	21	29	23	18	25	20	16	21	17	14	12
10	45	32	25	19	42	30	23	18	26	21	16	23	18	15	20	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1555	1555	1555
5°	1562	1527	1502
10°	1567	1505	1475
15°	1572	1481	1440
20°	1575	1462	1409
25°	1576	1447	1383
30°	1591	1429	1360
35°	1604	1415	1325
40°	1631	1411	1320
45°	1658	1410	1311
50°	1704	1429	1318
55°	1752	1435	1330
60°	1816	1475	1344
65°	1831	1492	1394
70°	1818	1527	1467
75°	1753	1643	1600
80°	1623	1860	1829
85°	1398	2303	2169

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 3882 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.1	1.4
10°-20°	101.6	4.1
20°-30°	157.5	6.3
30°-40°	197.6	7.9
40°-50°	220.4	8.8
50°-60°	226.2	9.0
60°-70°	210.6	8.4
70°-80°	179.5	7.2
80°-90°	150.6	6.0
90°-100°	171.9	6.9
100°-110°	210.7	8.4
110°-120°	199.5	8.0
120°-130°	157.4	6.3
130°-140°	110.9	4.4
140°-150°	76.0	3.0
150°-160°	52.8	2.1
160°-170°	31.9	1.3
170°-180°	10.7	0.4
0°-30°	294.2	11.8
0°-40°	491.7	19.7
0°-60°	938.4	37.5
0°-90°	1479.0	59.1
90°-120°	582.1	23.3
90°-150°	926.5	37.0
90°-180°	1022.0	40.9
0°-180°	2501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	369	369	369	369	369	
5°	371	371	368	368	363	35
15°	365	363	358	358	352	103
25°	346	345	342	340	332	160
35°	321	318	315	312	303	202
45°	290	287	286	284	275	225
55°	253	250	253	256	246	227
65°	201	206	216	219	215	198
75°	125	147	179	193	190	133
85°	43	111	161	173	173	43
90°	0	125	145	144	138	15
95°	159	173	158	156	153	149
105°	335	266	164	141	133	348
115°	369	280	161	124	114	362
125°	294	233	151	117	104	264
135°	204	172	130	113	107	160
145°	139	133	120	108	99	89
155°	120	119	114	110	102	56
165°	116	114	113	111	105	33
175°	114	114	113	113	108	11
180°	113	113	113	113	113	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	369.3	369.3	369.3	369.3	369.3
2.5°	372.4	370.9	367.8	369.3	364.7
5°	370.9	370.9	367.8	367.8	363.1
7.5°	370.9	369.3	366.2	366.2	361.6
10°	369.3	367.8	364.7	364.7	360.0
12.5°	366.2	366.2	361.6	361.6	357.0
15°	364.7	363.1	358.5	358.5	352.3
17.5°	360.0	358.5	355.4	353.9	347.7
20°	357.0	355.4	350.8	349.2	343.0
22.5°	352.3	350.8	346.1	344.6	338.4
25°	346.1	344.6	341.5	340.0	332.2
27.5°	341.5	340.0	335.3	333.8	326.0
30°	335.3	333.8	329.1	326.0	319.9
32.5°	329.1	326.0	324.5	319.9	312.1
35°	321.4	318.3	315.2	312.1	302.9
37.5°	315.2	312.1	309.0	306.0	296.7
40°	307.5	302.9	301.3	298.2	290.5
42.5°	299.8	295.1	293.6	292.1	282.8
45°	290.5	287.4	285.9	284.3	275.1
47.5°	282.8	278.1	278.1	276.6	268.9
50°	273.5	268.9	272.0	270.4	261.1
52.5°	264.2	261.1	262.7	264.2	255.0
55°	253.4	250.3	253.4	256.5	245.7
57.5°	242.6	241.1	245.7	247.2	238.0
60°	231.8	230.2	238.0	238.0	228.7
62.5°	216.3	217.9	227.2	228.7	221.0
65°	200.9	205.5	216.3	219.4	214.8
67.5°	183.9	193.2	205.5	213.2	208.6
70°	165.3	179.2	194.7	205.5	200.9
72.5°	146.8	163.8	185.4	199.3	194.7
75°	125.2	146.8	179.2	193.2	190.1
77.5°	106.6	131.3	171.5	188.5	187.0
80°	83.4	119.0	166.9	183.9	182.3
82.5°	61.8	111.3	163.8	179.2	177.7
85°	43.3	111.3	160.7	173.1	173.1
87.5°	23.2	117.4	157.6	168.4	166.9
90°	0.0	125.2	145.3	143.7	137.5
92.5°	85.0	148.3	154.5	156.1	154.5
95°	159.2	173.1	157.6	156.1	153.0
97.5°	214.8	197.8	160.7	151.4	148.3
100°	262.7	224.1	160.7	148.3	143.7
102.5°	306.0	245.7	163.8	143.7	137.5
105°	335.3	265.8	163.8	140.6	132.9
107.5°	358.5	279.7	163.8	137.5	129.8
110°	372.4	285.9	163.8	134.4	122.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	377.0	285.9	162.3	128.3	119.0
115°	369.3	279.7	160.7	123.6	114.3
117.5°	357.0	272.0	160.7	120.5	109.7
120°	338.4	261.1	159.2	119.0	106.6
122.5°	316.8	247.2	156.1	117.4	105.1
125°	293.6	233.3	151.4	117.4	103.5
127.5°	270.4	217.9	145.3	119.0	105.1
130°	248.8	202.4	139.1	119.0	106.6
132.5°	227.2	187.0	132.9	117.4	106.6
135°	204.0	171.5	129.8	112.8	106.6
137.5°	182.3	157.6	126.7	109.7	102.0
140°	163.8	148.3	123.6	108.2	100.4
142.5°	149.9	140.6	122.1	106.6	98.9
145°	139.1	132.9	120.5	108.2	98.9
147.5°	131.3	128.3	119.0	108.2	98.9
150°	126.7	125.2	117.4	108.2	100.4
152.5°	123.6	122.1	115.9	109.7	102.0
155°	120.5	119.0	114.3	109.7	102.0
157.5°	119.0	117.4	114.3	109.7	103.5
160°	117.4	115.9	114.3	109.7	105.1
162.5°	115.9	115.9	112.8	111.3	105.1
165°	115.9	114.3	112.8	111.3	105.1
167.5°	114.3	114.3	112.8	111.3	106.6
170°	114.3	114.3	112.8	111.3	106.6
172.5°	114.3	114.3	112.8	111.3	106.6
175°	114.3	114.3	112.8	112.8	108.2
177.5°	114.3	114.3	112.8	112.8	108.2
180°	112.8	112.8	112.8	112.8	112.8



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	10.10	11.14	10.96	12.04	13.16	10.76	11.80	11.61	12.69	13.82
	3H	12.20	13.15	13.07	14.05	15.20	13.53	14.48	14.40	15.38	16.53
	4H	12.98	13.89	13.87	14.80	15.96	14.99	15.89	15.87	16.80	17.96
	6H	13.56	14.40	14.45	15.31	16.49	16.61	17.45	17.50	18.36	19.54
	8H	13.75	14.55	14.65	15.48	16.66	17.47	18.28	18.38	19.21	20.39
	12H	13.87	14.64	14.78	15.56	16.77	18.43	19.20	19.34	20.12	21.33
4H	2H	10.93	11.84	11.82	12.75	13.91	11.42	12.33	12.31	13.23	14.39
	3H	13.28	14.05	14.18	14.99	16.17	14.42	15.20	15.32	16.14	17.31
	4H	14.24	14.96	15.15	15.89	17.09	16.05	16.77	16.96	17.70	18.90
	6H	14.99	15.62	15.91	16.58	17.78	17.87	18.50	18.79	19.45	20.65
	8H	15.27	15.86	16.19	16.81	18.03	18.84	19.43	19.76	20.38	21.60
	12H	15.47	16.01	16.41	16.98	18.20	19.90	20.45	20.85	21.41	22.64
8H	4H	14.96	15.55	15.88	16.50	17.72	16.46	17.05	17.38	18.00	19.22
	6H	15.99	16.50	16.94	17.49	18.70	18.50	19.01	19.45	20.00	21.21
	8H	16.45	16.90	17.40	17.88	19.11	19.64	20.10	20.60	21.08	22.31
	12H	16.82	17.23	17.78	18.20	19.48	20.91	21.32	21.87	22.29	23.57
12H	4H	15.17	15.71	16.11	16.68	17.90	16.50	17.04	17.44	18.01	19.23
	6H	16.36	16.82	17.32	17.79	19.03	18.63	19.08	19.58	20.06	21.29
	8H	16.95	17.35	17.91	18.33	19.60	19.85	20.26	20.82	21.23	22.51