

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: P624672

Luminaire Tested: S930DIP-W235-X2-USTD-W

Issue Date: 11/3/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P624672  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35531-R2)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/3/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S930DIP-W235-X2-USTD-W  
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

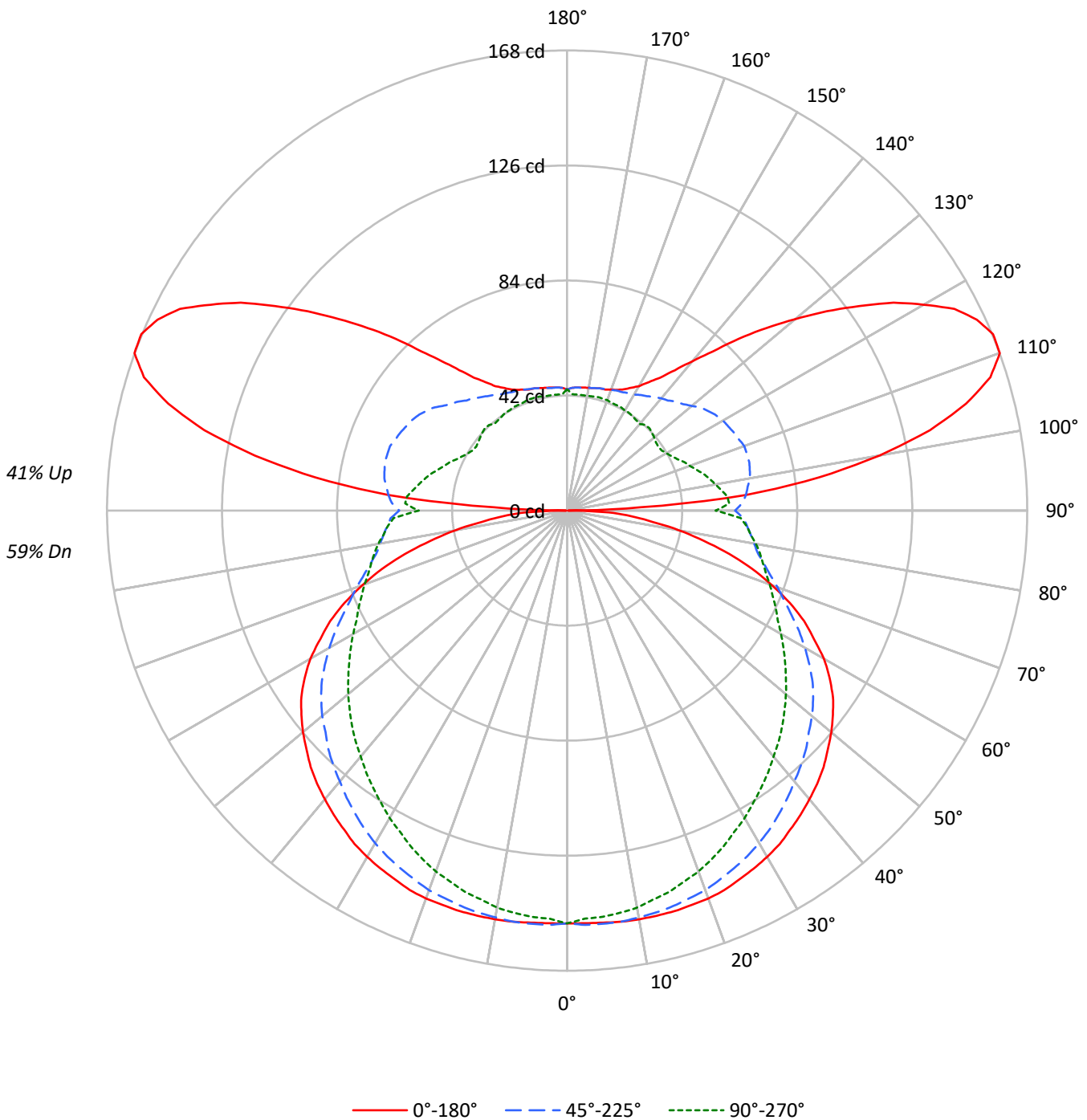
Lumens per Lamp: N/A  
Luminaire Lumens: 1059.5 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')  
CIE Type: General Diffuse

Input Watts (W): 10.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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										
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	50	30	10	50	30	10	0														
RCR																																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																				
1	97	92	87	82	90	85	81	77	74	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	26	23	20																				
6	61	47	38	32	56	44	36	30	38	32	27	33	27	23	28	23	20	17																				
7	56	43	34	28	52	40	32	26	35	28	23	30	24	20	25	21	18	15																				
8	52	38	30	24	48	36	28	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	24	19	42	30	23	18	26	20	16	23	18	15	20	16	13	11																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1269	1269	1269
5°	1267	1254	1232
10°	1276	1238	1206
15°	1290	1226	1178
20°	1310	1217	1152
25°	1327	1205	1125
30°	1352	1199	1102
35°	1377	1190	1081
40°	1410	1183	1065
45°	1451	1186	1059
50°	1495	1191	1053
55°	1548	1199	1052
60°	1586	1195	1060
65°	1604	1193	1090
70°	1578	1216	1149
75°	1506	1278	1246
80°	1348	1430	1404
85°	1139	1713	1649

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 90°  
 Luminance: 2718 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	14.4	1.4
10°-20°	42.1	4.0
20°-30°	66.2	6.2
30°-40°	84.1	7.9
40°-50°	94.7	8.9
50°-60°	97.0	9.2
60°-70°	89.7	8.5
70°-80°	75.4	7.1
80°-90°	62.3	5.9
90°-100°	71.7	6.8
100°-110°	90.2	8.5
110°-120°	85.8	8.1
120°-130°	67.1	6.3
130°-140°	47.4	4.5
140°-150°	32.3	3.1
150°-160°	21.8	2.1
160°-170°	12.9	1.2
170°-180°	4.3	0.4
0°-30°	122.7	11.6
0°-40°	206.8	19.5
0°-60°	398.6	37.6
0°-90°	625.9	59.1
90°-120°	247.7	23.4
90°-150°	394.5	37.2
90°-180°	434.0	41.0
0°-180°	1059.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	151	151	151	151	151	
5°	151	151	151	151	149	14
15°	151	151	150	147	144	43
25°	149	147	144	140	135	69
35°	142	140	135	129	124	89
45°	132	129	123	117	111	102
55°	118	114	109	103	97	106
65°	96	94	90	88	84	94
75°	61	66	74	76	74	64
85°	24	51	66	67	66	23
90°	0	57	61	57	54	6
95°	66	79	66	60	59	62
105°	151	119	69	55	52	156
115°	165	126	67	50	44	162
125°	130	103	63	47	41	117
135°	89	75	56	47	42	69
145°	59	57	51	46	42	38
155°	49	49	48	46	42	23
165°	46	46	46	45	43	13
175°	45	45	45	45	42	4
180°	44	44	44	44	44	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	150.7	150.7	150.7	150.7	150.7
2.5°	150.8	151.0	151.4	151.4	149.1
5°	151.0	151.2	151.4	151.2	148.9
7.5°	151.4	151.2	151.4	150.7	148.1
10°	151.5	151.4	150.8	150.0	147.2
12.5°	151.5	151.2	150.3	148.6	145.4
15°	151.4	150.8	149.5	147.4	144.1
17.5°	151.0	150.5	148.4	145.6	142.0
20°	150.7	149.8	147.5	144.2	140.2
22.5°	150.0	148.6	145.8	142.1	137.8
25°	148.6	147.4	144.1	139.7	135.2
27.5°	147.4	145.8	142.3	137.3	132.2
30°	146.0	144.1	140.2	134.7	129.6
32.5°	144.4	142.1	137.8	132.0	126.5
35°	142.1	139.7	135.0	129.3	123.5
37.5°	140.0	137.4	132.2	126.3	120.5
40°	137.6	134.7	129.1	123.0	117.2
42.5°	135.2	131.9	126.3	120.4	114.3
45°	132.4	128.6	123.3	117.1	111.1
47.5°	129.1	125.2	119.7	113.7	107.7
50°	125.9	122.1	116.7	110.3	104.3
52.5°	122.3	118.3	113.2	106.6	100.7
55°	118.5	113.9	109.4	103.1	97.2
57.5°	113.6	109.7	104.9	99.1	93.7
60°	108.3	104.7	100.2	95.3	90.2
62.5°	101.6	99.5	95.5	91.6	86.7
65°	95.5	94.1	90.4	88.1	84.0
67.5°	88.0	88.3	85.7	84.8	81.2
70°	79.4	81.5	81.7	81.9	78.7
72.5°	70.9	73.9	77.7	78.7	76.1
75°	61.3	65.8	74.2	76.5	74.0
77.5°	51.2	58.4	71.2	74.4	72.1
80°	41.5	53.1	69.3	72.1	70.0
82.5°	31.4	50.5	67.6	69.5	67.6
85°	23.5	50.7	66.0	67.2	65.8
87.5°	15.2	53.0	64.5	64.8	63.4
90°	0.3	56.8	61.3	57.0	54.2
92.5°	26.8	67.6	64.1	61.0	59.2
95°	65.7	79.3	65.5	60.4	58.7
97.5°	92.7	91.3	66.5	59.2	56.8
100°	115.8	101.7	67.8	58.2	55.0
102.5°	135.7	111.3	68.3	56.8	53.3
105°	150.8	119.1	68.8	55.4	51.6
107.5°	162.0	124.9	68.8	54.0	49.5
110°	168.1	128.6	68.8	52.6	47.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	168.3	128.6	67.9	50.9	46.3
115°	165.0	125.9	67.2	49.8	44.4
117.5°	159.4	121.8	66.4	48.3	43.0
120°	150.3	116.5	65.7	47.4	41.8
122.5°	141.3	110.1	64.6	47.0	40.9
125°	130.1	103.3	63.2	46.9	40.6
127.5°	119.5	96.2	61.7	47.0	40.9
130°	108.7	89.0	59.4	47.6	41.5
132.5°	98.6	81.2	57.5	47.7	42.0
135°	88.7	74.7	56.3	47.4	42.5
137.5°	78.7	68.8	54.5	46.3	42.3
140°	71.1	63.9	53.5	46.0	41.3
142.5°	64.6	59.7	52.1	46.2	41.5
145°	59.2	56.6	51.0	46.2	41.8
147.5°	55.6	54.0	50.0	46.2	42.2
150°	52.4	51.7	48.9	46.0	42.2
152.5°	50.5	50.2	48.4	46.0	42.5
155°	48.8	48.8	47.7	45.8	42.5
157.5°	47.7	47.7	47.4	45.6	42.5
160°	47.0	47.2	46.9	45.6	42.9
162.5°	46.3	46.5	46.5	45.5	42.9
165°	46.2	46.2	46.2	45.3	42.9
167.5°	45.8	45.8	45.8	45.1	42.7
170°	45.5	45.5	45.5	44.9	42.5
172.5°	45.3	45.1	45.1	44.8	42.5
175°	45.1	45.1	45.1	44.8	42.5
177.5°	44.9	44.9	44.9	44.6	42.5
180°	44.2	44.2	44.2	44.2	44.2



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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	9.98	11.02	10.84	11.92	13.04	9.62	10.66	10.48	11.55	12.68
	3H	12.16	13.11	13.03	14.01	15.17	12.27	13.22	13.14	14.12	15.28
	4H	12.99	13.89	13.87	14.80	15.96	13.64	14.55	14.53	15.45	16.62
	6H	13.61	14.45	14.50	15.36	16.54	15.12	15.97	16.02	16.88	18.06
	8H	13.82	14.63	14.72	15.56	16.73	15.89	16.70	16.80	17.63	18.81
	12H	13.97	14.74	14.88	15.67	16.87	16.71	17.48	17.62	18.41	19.61
4H	2H	10.64	11.54	11.52	12.45	13.61	10.36	11.27	11.25	12.17	13.34
	3H	13.07	13.84	13.97	14.78	15.96	13.24	14.01	14.14	14.95	16.13
	4H	14.07	14.79	14.98	15.72	16.92	14.77	15.49	15.68	16.42	17.62
	6H	14.87	15.50	15.79	16.46	17.66	16.43	17.06	17.35	18.02	19.22
	8H	15.18	15.77	16.11	16.72	17.94	17.30	17.89	18.23	18.84	20.06
	12H	15.42	15.96	16.36	16.93	18.15	18.23	18.77	19.17	19.73	20.96
8H	4H	14.63	15.23	15.56	16.18	17.39	15.23	15.82	16.15	16.77	17.99
	6H	15.69	16.20	16.64	17.19	18.40	17.12	17.62	18.07	18.61	19.82
	8H	16.18	16.63	17.14	17.61	18.84	18.15	18.60	19.11	19.58	20.81
	12H	16.60	17.00	17.56	17.98	19.25	19.27	19.68	20.24	20.65	21.93
12H	4H	14.78	15.32	15.72	16.29	17.51	15.28	15.82	16.23	16.79	18.01
	6H	15.98	16.43	16.94	17.41	18.64	17.26	17.72	18.22	18.70	19.93
	8H	16.58	16.98	17.55	17.96	19.24	18.39	18.79	19.35	19.76	21.04