

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: P624660

Luminaire Tested: S930DIP-W140-X2-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624660
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-W140-X2-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

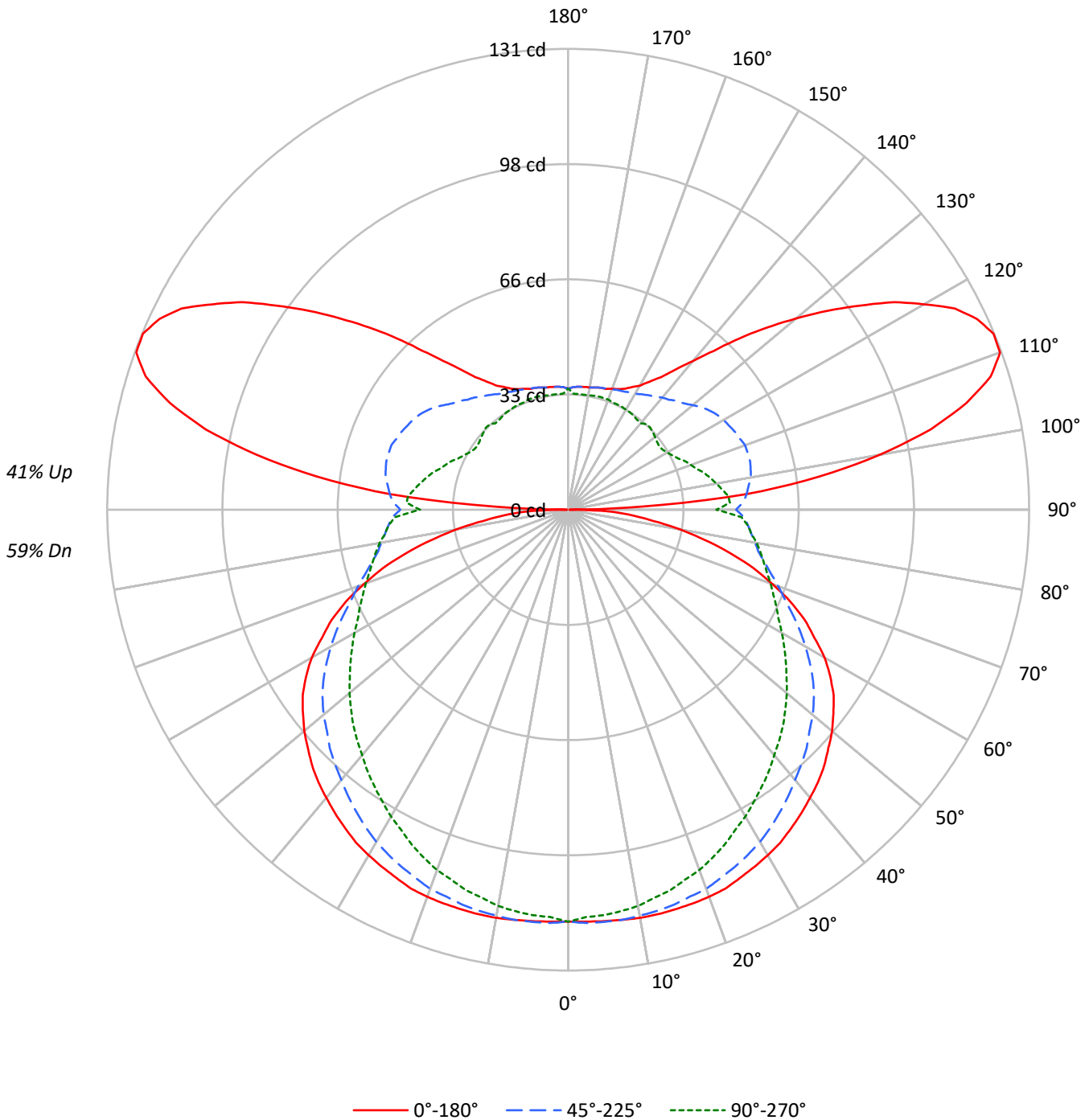
Lumens per Lamp: N/A
Luminaire Lumens: 823.4 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 7.7
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										
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°	986	986	986
5°	985	974	957
10°	992	962	937
15°	1002	953	915
20°	1018	946	896
25°	1032	937	875
30°	1050	932	856
35°	1071	925	840
40°	1096	919	828
45°	1128	922	823
50°	1163	926	819
55°	1203	931	817
60°	1233	928	824
65°	1247	927	847
70°	1227	945	894
75°	1172	994	968
80°	1046	1112	1091
85°	887	1332	1283

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 2111 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.2	1.4
10°-20°	32.7	4.0
20°-30°	51.4	6.2
30°-40°	65.4	7.9
40°-50°	73.6	8.9
50°-60°	75.4	9.2
60°-70°	69.7	8.5
70°-80°	58.6	7.1
80°-90°	48.4	5.9
90°-100°	55.7	6.8
100°-110°	70.1	8.5
110°-120°	66.7	8.1
120°-130°	52.2	6.3
130°-140°	36.8	4.5
140°-150°	25.1	3.1
150°-160°	17.0	2.1
160°-170°	10.0	1.2
170°-180°	3.3	0.4
0°-30°	95.3	11.6
0°-40°	160.7	19.5
0°-60°	309.7	37.6
0°-90°	486.4	59.1
90°-120°	192.5	23.4
90°-150°	306.6	37.2
90°-180°	337.0	40.9
0°-180°	823.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	117	117	117	117	117	
5°	117	118	118	118	116	11
15°	118	117	116	114	112	33
25°	116	114	112	109	105	53
35°	110	109	105	100	96	69
45°	103	100	96	91	86	79
55°	92	88	85	80	76	82
65°	74	73	70	68	65	73
75°	48	51	58	59	58	50
85°	18	39	51	52	51	18
90°	0	44	48	44	42	5
95°	51	62	51	47	46	49
105°	117	93	54	43	40	121
115°	128	98	52	39	34	126
125°	101	80	49	36	32	91
135°	69	58	44	37	33	54
145°	46	44	40	36	32	30
155°	38	38	37	36	33	18
165°	36	36	36	35	33	10
175°	35	35	35	35	33	3
180°	34	34	34	34	34	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	117.1	117.1	117.1	117.1	117.1
2.5°	117.2	117.4	117.6	117.6	115.9
5°	117.4	117.5	117.6	117.5	115.7
7.5°	117.6	117.5	117.6	117.1	115.1
10°	117.8	117.6	117.2	116.6	114.4
12.5°	117.8	117.5	116.8	115.5	113.0
15°	117.6	117.2	116.2	114.5	112.0
17.5°	117.4	117.0	115.3	113.2	110.3
20°	117.1	116.4	114.7	112.1	109.0
22.5°	116.6	115.5	113.3	110.5	107.1
25°	115.5	114.5	112.0	108.6	105.1
27.5°	114.5	113.3	110.6	106.7	102.7
30°	113.4	112.0	109.0	104.6	100.7
32.5°	112.2	110.5	107.1	102.6	98.3
35°	110.5	108.6	104.9	100.4	96.0
37.5°	108.8	106.8	102.7	98.1	93.7
40°	106.9	104.6	100.3	95.6	91.1
42.5°	105.1	102.5	98.1	93.5	88.8
45°	102.9	99.9	95.8	91.0	86.4
47.5°	100.3	97.3	93.0	88.4	83.7
50°	97.9	94.9	90.7	85.7	81.1
52.5°	95.0	91.9	88.0	82.8	78.2
55°	92.1	88.5	85.0	80.1	75.5
57.5°	88.3	85.3	81.5	77.0	72.8
60°	84.2	81.4	77.8	74.0	70.1
62.5°	78.9	77.3	74.2	71.2	67.4
65°	74.2	73.1	70.3	68.5	65.3
67.5°	68.4	68.6	66.6	65.9	63.1
70°	61.7	63.4	63.5	63.6	61.2
72.5°	55.1	57.4	60.4	61.2	59.2
75°	47.7	51.2	57.7	59.4	57.5
77.5°	39.8	45.4	55.4	57.8	56.0
80°	32.2	41.3	53.9	56.0	54.4
82.5°	24.4	39.3	52.5	54.0	52.5
85°	18.3	39.4	51.3	52.3	51.2
87.5°	11.8	41.2	50.1	50.4	49.3
90°	0.3	44.1	47.7	44.3	42.1
92.5°	20.8	52.5	49.8	47.4	46.0
95°	51.0	61.6	50.9	47.0	45.6
97.5°	72.0	70.9	51.7	46.0	44.1
100°	90.0	79.1	52.7	45.2	42.8
102.5°	105.5	86.5	53.1	44.1	41.4
105°	117.2	92.6	53.5	43.0	40.1
107.5°	125.9	97.1	53.5	42.0	38.4
110°	130.6	99.9	53.5	40.9	37.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	130.8	99.9	52.8	39.5	36.0
115°	128.2	97.9	52.3	38.7	34.5
117.5°	123.9	94.6	51.6	37.5	33.4
120°	116.8	90.6	51.0	36.8	32.5
122.5°	109.8	85.6	50.2	36.6	31.8
125°	101.1	80.3	49.1	36.4	31.5
127.5°	92.9	74.7	47.9	36.6	31.8
130°	84.5	69.2	46.2	37.0	32.2
132.5°	76.6	63.1	44.7	37.1	32.6
135°	68.9	58.1	43.7	36.8	33.0
137.5°	61.2	53.5	42.4	36.0	32.9
140°	55.2	49.7	41.6	35.7	32.1
142.5°	50.2	46.4	40.5	35.9	32.2
145°	46.0	44.0	39.7	35.9	32.5
147.5°	43.2	42.0	38.9	35.9	32.8
150°	40.7	40.2	38.0	35.7	32.8
152.5°	39.3	39.0	37.6	35.7	33.0
155°	37.9	37.9	37.1	35.6	33.0
157.5°	37.1	37.1	36.8	35.5	33.0
160°	36.6	36.7	36.4	35.5	33.3
162.5°	36.0	36.1	36.1	35.3	33.3
165°	35.9	35.9	35.9	35.2	33.3
167.5°	35.6	35.6	35.6	35.1	33.2
170°	35.3	35.3	35.3	34.9	33.0
172.5°	35.2	35.1	35.1	34.8	33.0
175°	35.1	35.1	35.1	34.8	33.0
177.5°	34.9	34.9	34.9	34.7	33.0
180°	34.4	34.4	34.4	34.4	34.4



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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	9.11	10.15	9.96	11.04	12.17	8.74	9.78	9.60	10.67	11.80
	3H	11.29	12.24	12.16	13.14	14.29	11.40	12.35	12.27	13.25	14.40
	4H	12.11	13.02	13.00	13.93	15.09	12.77	13.67	13.65	14.58	15.74
	6H	12.73	13.58	13.63	14.49	15.67	14.25	15.09	15.14	16.00	17.18
	8H	12.95	13.75	13.85	14.69	15.86	15.02	15.82	15.92	16.75	17.93
	12H	13.10	13.87	14.01	14.80	16.00	15.84	16.61	16.75	17.53	18.74
4H	2H	9.76	10.67	10.65	11.57	12.73	9.48	10.39	10.37	11.30	12.46
	3H	12.20	12.97	13.10	13.91	15.09	12.36	13.14	13.26	14.07	15.25
	4H	13.20	13.91	14.11	14.84	16.05	13.89	14.61	14.80	15.54	16.74
	6H	14.00	14.63	14.92	15.58	16.78	15.55	16.18	16.47	17.14	18.34
	8H	14.31	14.90	15.23	15.85	17.07	16.42	17.02	17.35	17.97	19.18
	12H	14.54	15.09	15.49	16.05	17.28	17.35	17.89	18.30	18.86	20.08
8H	4H	13.76	14.35	14.69	15.30	16.52	14.35	14.94	15.27	15.89	17.11
	6H	14.82	15.32	15.77	16.31	17.53	16.24	16.74	17.19	17.73	18.95
	8H	15.30	15.76	16.26	16.74	17.97	17.28	17.73	18.23	18.71	19.94
	12H	15.73	16.13	16.69	17.10	18.38	18.40	18.80	19.36	19.78	21.05
12H	4H	13.91	14.45	14.85	15.41	16.64	14.40	14.95	15.35	15.91	17.14
	6H	15.10	15.56	16.06	16.54	17.77	16.39	16.84	17.35	17.82	19.05
	8H	15.71	16.11	16.67	17.09	18.36	17.51	17.91	18.47	18.89	20.16