

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: P624664

Luminaire Tested: S930DIP-W227-X2-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624664
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-W227-X2-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

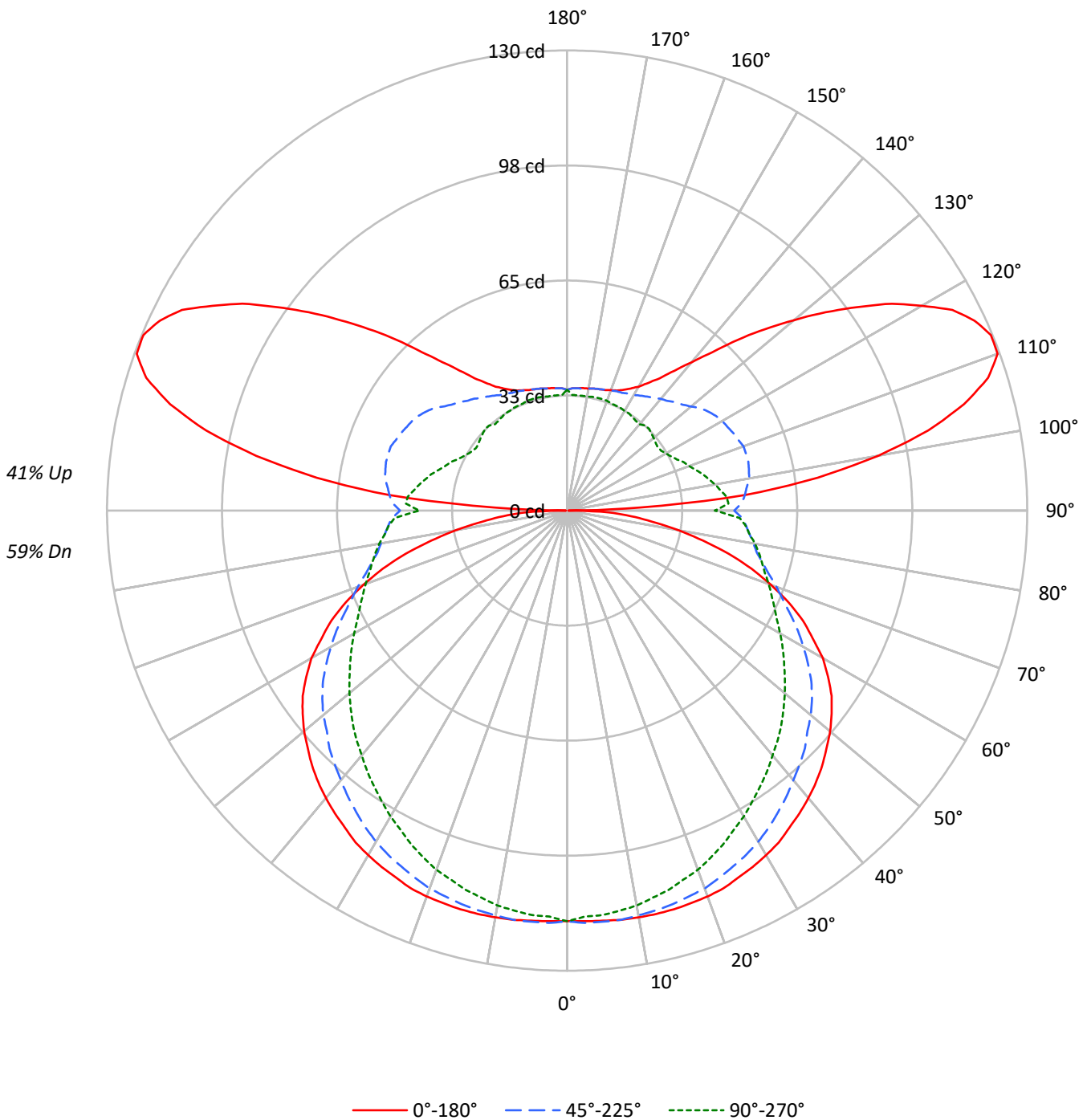
Lumens per Lamp: N/A
Luminaire Lumens: 815.7 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 10.3
Input Voltage (V): 120
Input Current (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	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°	977	977	977
5°	976	966	949
10°	983	953	928
15°	994	944	906
20°	1008	937	887
25°	1022	928	867
30°	1041	923	848
35°	1060	916	832
40°	1086	911	821
45°	1117	914	816
50°	1152	918	811
55°	1191	923	810
60°	1221	920	817
65°	1235	918	838
70°	1217	936	885
75°	1160	984	960
80°	1036	1102	1081
85°	877	1319	1270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 2092 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.1	1.4
10°-20°	32.4	4.0
20°-30°	50.9	6.2
30°-40°	64.8	7.9
40°-50°	72.9	8.9
50°-60°	74.7	9.2
60°-70°	69.1	8.5
70°-80°	58.0	7.1
80°-90°	47.9	5.9
90°-100°	55.2	6.8
100°-110°	69.4	8.5
110°-120°	66.0	8.1
120°-130°	51.7	6.3
130°-140°	36.5	4.5
140°-150°	24.9	3.1
150°-160°	16.8	2.1
160°-170°	9.9	1.2
170°-180°	3.3	0.4
0°-30°	94.4	11.6
0°-40°	159.2	19.5
0°-60°	306.9	37.6
0°-90°	481.9	59.1
90°-120°	190.7	23.4
90°-150°	303.8	37.2
90°-180°	334.0	40.9
0°-180°	815.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	116	116	116	116	116	
5°	116	116	117	116	115	11
15°	117	116	115	114	111	33
25°	114	114	111	108	104	53
35°	109	108	104	100	95	69
45°	102	99	95	90	86	79
55°	91	88	84	79	75	81
65°	74	72	70	68	65	72
75°	47	51	57	59	57	50
85°	18	39	51	52	51	17
90°	0	44	47	44	42	5
95°	51	61	50	46	45	48
105°	116	92	53	43	40	120
115°	127	97	52	38	34	125
125°	100	80	49	36	31	90
135°	68	58	43	36	33	53
145°	46	44	39	36	32	29
155°	38	38	37	35	33	18
165°	36	36	36	35	33	10
175°	35	35	35	34	33	3
180°	34	34	34	34	34	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	116.0	116.0	116.0	116.0	116.0
2.5°	116.1	116.3	116.6	116.6	114.8
5°	116.3	116.4	116.6	116.4	114.7
7.5°	116.6	116.4	116.6	116.0	114.0
10°	116.7	116.6	116.1	115.5	113.3
12.5°	116.7	116.4	115.7	114.4	112.0
15°	116.6	116.1	115.1	113.5	110.9
17.5°	116.3	115.9	114.3	112.1	109.3
20°	116.0	115.3	113.6	111.1	108.0
22.5°	115.5	114.4	112.3	109.4	106.1
25°	114.4	113.5	110.9	107.6	104.1
27.5°	113.5	112.3	109.6	105.7	101.8
30°	112.4	110.9	108.0	103.7	99.8
32.5°	111.2	109.4	106.1	101.7	97.4
35°	109.4	107.6	103.9	99.5	95.1
37.5°	107.8	105.8	101.8	97.2	92.8
40°	106.0	103.7	99.4	94.7	90.3
42.5°	104.1	101.5	97.2	92.7	88.0
45°	101.9	99.0	95.0	90.1	85.6
47.5°	99.4	96.4	92.1	87.6	82.9
50°	97.0	94.0	89.9	84.9	80.3
52.5°	94.2	91.1	87.2	82.1	77.5
55°	91.2	87.7	84.2	79.4	74.8
57.5°	87.4	84.5	80.7	76.3	72.2
60°	83.4	80.6	77.1	73.4	69.5
62.5°	78.2	76.6	73.5	70.5	66.8
65°	73.5	72.4	69.6	67.9	64.6
67.5°	67.7	68.0	66.0	65.3	62.5
70°	61.2	62.8	62.9	63.0	60.6
72.5°	54.6	56.9	59.8	60.6	58.6
75°	47.2	50.7	57.1	58.9	57.0
77.5°	39.4	44.9	54.9	57.3	55.5
80°	31.9	40.9	53.4	55.5	53.9
82.5°	24.1	38.9	52.0	53.5	52.0
85°	18.1	39.0	50.8	51.8	50.7
87.5°	11.7	40.8	49.6	49.9	48.8
90°	0.3	43.7	47.2	43.9	41.7
92.5°	20.7	52.0	49.4	46.9	45.6
95°	50.6	61.0	50.4	46.5	45.2
97.5°	71.4	70.3	51.2	45.6	43.7
100°	89.2	78.3	52.2	44.8	42.4
102.5°	104.5	85.7	52.6	43.7	41.0
105°	116.1	91.7	53.0	42.7	39.7
107.5°	124.7	96.2	53.0	41.6	38.1
110°	129.4	99.0	53.0	40.5	36.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	129.6	99.0	52.3	39.2	35.7
115°	127.0	97.0	51.8	38.4	34.2
117.5°	122.7	93.7	51.1	37.2	33.1
120°	115.7	89.7	50.6	36.5	32.2
122.5°	108.8	84.8	49.8	36.2	31.5
125°	100.2	79.5	48.7	36.1	31.2
127.5°	92.0	74.0	47.5	36.2	31.5
130°	83.7	68.5	45.7	36.6	31.9
132.5°	75.9	62.5	44.3	36.7	32.3
135°	68.3	57.5	43.3	36.5	32.7
137.5°	60.6	53.0	42.0	35.7	32.6
140°	54.7	49.2	41.2	35.4	31.8
142.5°	49.8	46.0	40.1	35.5	31.9
145°	45.6	43.6	39.3	35.5	32.2
147.5°	42.8	41.6	38.5	35.5	32.5
150°	40.4	39.8	37.7	35.4	32.5
152.5°	38.9	38.6	37.3	35.4	32.7
155°	37.6	37.6	36.7	35.3	32.7
157.5°	36.7	36.7	36.5	35.1	32.7
160°	36.2	36.3	36.1	35.1	33.0
162.5°	35.7	35.8	35.8	35.0	33.0
165°	35.5	35.5	35.5	34.9	33.0
167.5°	35.3	35.3	35.3	34.7	32.9
170°	35.0	35.0	35.0	34.6	32.7
172.5°	34.9	34.7	34.7	34.5	32.7
175°	34.7	34.7	34.7	34.5	32.7
177.5°	34.6	34.6	34.6	34.3	32.7
180°	34.1	34.1	34.1	34.1	34.1



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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	9.07	10.11	9.93	11.01	12.13	8.71	9.75	9.57	10.65	11.77
	3H	11.26	12.21	12.12	13.11	14.26	11.37	12.31	12.23	13.22	14.37
	4H	12.08	12.99	12.96	13.89	15.05	12.73	13.64	13.62	14.55	15.71
	6H	12.70	13.54	13.60	14.45	15.63	14.22	15.06	15.11	15.97	17.15
	8H	12.91	13.72	13.82	14.65	15.83	14.99	15.79	15.89	16.72	17.90
	12H	13.06	13.83	13.97	14.76	15.96	15.81	16.58	16.72	17.50	18.71
4H	2H	9.73	10.63	10.61	11.54	12.70	9.45	10.36	10.34	11.27	12.43
	3H	12.16	12.94	13.06	13.87	15.05	12.33	13.10	13.23	14.04	15.22
	4H	13.16	13.88	14.07	14.81	16.01	13.86	14.58	14.77	15.51	16.71
	6H	13.96	14.59	14.88	15.55	16.75	15.52	16.15	16.44	17.11	18.31
	8H	14.27	14.87	15.20	15.82	17.03	16.39	16.99	17.32	17.94	19.15
	12H	14.51	15.05	15.45	16.02	17.24	17.32	17.86	18.26	18.83	20.05
8H	4H	13.73	14.32	14.65	15.27	16.49	14.32	14.91	15.24	15.86	17.08
	6H	14.78	15.29	15.73	16.28	17.49	16.21	16.71	17.16	17.70	18.92
	8H	15.27	15.72	16.23	16.70	17.93	17.24	17.70	18.20	18.67	19.91
	12H	15.69	16.09	16.66	17.07	18.35	18.36	18.77	19.33	19.74	21.02
12H	4H	13.87	14.41	14.82	15.38	16.60	14.37	14.91	15.32	15.88	17.11
	6H	15.07	15.52	16.03	16.50	17.73	16.36	16.81	17.31	17.79	19.02
	8H	15.67	16.08	16.64	17.05	18.33	17.48	17.88	18.44	18.86	20.13