

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: P624657

Luminaire Tested: S930DIP-W135-X4-U5LT-W

Issue Date: 11/3/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P624657  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 11/3/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S930DIP-W135-X4-U5LT-W  
Description: NEO-RAY COVERA DIRECT/INDIRECT 4-FOOT LED WaveStream LUMINAIRE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

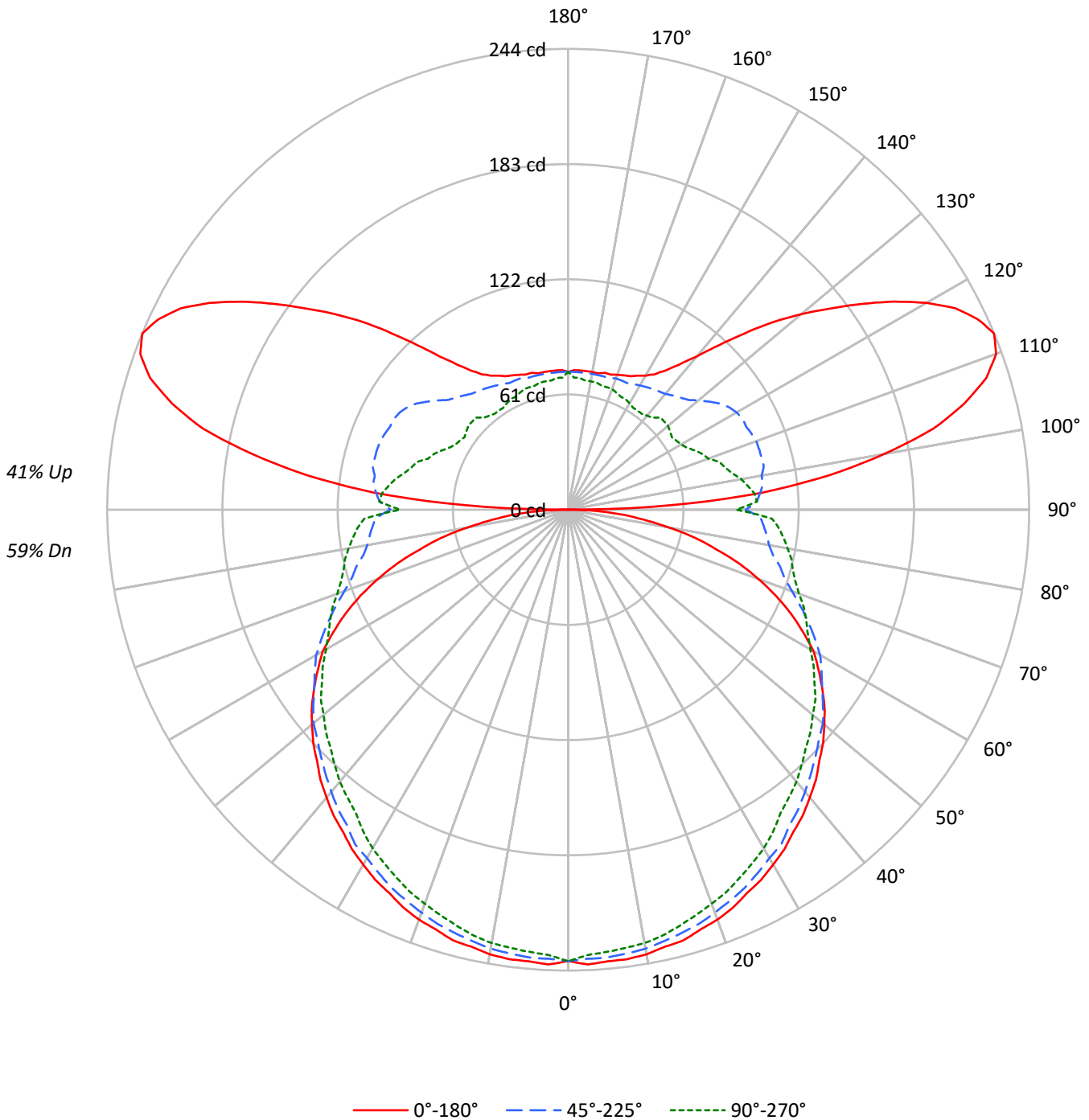
Lumens per Lamp: N/A  
Luminaire Lumens: 1618.5 lumens  
Efficiency: N/A  
Efficacy: 105.8 lumens/watt  
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')  
CIE Type: General Diffuse

Input Watts (W): 15.3  
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	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°	1007	1007	1007
5°	1011	988	972
10°	1014	974	954
15°	1017	958	932
20°	1019	946	912
25°	1020	936	895
30°	1030	925	880
35°	1038	916	858
40°	1056	913	854
45°	1073	913	848
50°	1103	925	853
55°	1134	929	860
60°	1175	954	870
65°	1185	966	902
70°	1177	988	949
75°	1134	1064	1036
80°	1051	1203	1184
85°	904	1491	1403

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 90°  
 Luminance: 2512 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.7	1.4
10°-20°	65.7	4.1
20°-30°	101.9	6.3
30°-40°	127.9	7.9
40°-50°	142.7	8.8
50°-60°	146.4	9.0
60°-70°	136.3	8.4
70°-80°	116.2	7.2
80°-90°	97.4	6.0
90°-100°	111.3	6.9
100°-110°	136.4	8.4
110°-120°	129.1	8.0
120°-130°	101.9	6.3
130°-140°	71.8	4.4
140°-150°	49.2	3.0
150°-160°	34.2	2.1
160°-170°	20.6	1.3
170°-180°	6.9	0.4
0°-30°	190.4	11.8
0°-40°	318.2	19.7
0°-60°	607.3	37.5
0°-90°	957.2	59.1
90°-120°	376.7	23.3
90°-150°	599.6	37.0
90°-180°	661.0	40.8
0°-180°	1618.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	240	240	238	238	235	23
15°	236	235	232	232	228	67
25°	224	223	221	220	215	104
35°	208	206	204	202	196	131
45°	188	186	185	184	178	146
55°	164	162	164	166	159	147
65°	130	133	140	142	139	128
75°	81	95	116	125	123	86
85°	28	72	104	112	112	28
90°	0	81	94	93	89	10
95°	103	112	102	101	99	96
105°	217	172	106	91	86	225
115°	239	181	104	80	74	234
125°	190	151	98	76	67	171
135°	132	111	84	73	69	103
145°	90	86	78	70	64	58
155°	78	77	74	71	66	36
165°	75	74	73	72	68	21
175°	74	74	73	73	70	7
180°	73	73	73	73	73	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	239	239	239	239	239
2.5°	241	240	238	239	236
5°	240	240	238	238	235
7.5°	240	239	237	237	234
10°	239	238	236	236	233
12.5°	237	237	234	234	231
15°	236	235	232	232	228
17.5°	233	232	230	229	225
20°	231	230	227	226	222
22.5°	228	227	224	223	219
25°	224	223	221	220	215
27.5°	221	220	217	216	211
30°	217	216	213	211	207
32.5°	213	211	210	207	202
35°	208	206	204	202	196
37.5°	204	202	200	198	192
40°	199	196	195	193	188
42.5°	194	191	190	189	183
45°	188	186	185	184	178
47.5°	183	180	180	179	174
50°	177	174	176	175	169
52.5°	171	169	170	171	165
55°	164	162	164	166	159
57.5°	157	156	159	160	154
60°	150	149	154	154	148
62.5°	140	141	147	148	143
65°	130	133	140	142	139
67.5°	119	125	133	138	135
70°	107	116	126	133	130
72.5°	95	106	120	129	126
75°	81	95	116	125	123
77.5°	69	85	111	122	121
80°	54	77	108	119	118
82.5°	40	72	106	116	115
85°	28	72	104	112	112
87.5°	15	76	102	109	108
90°	0	81	94	93	89
92.5°	55	96	100	101	100
95°	103	112	102	101	99
97.5°	139	128	104	98	96
100°	170	145	104	96	93
102.5°	198	159	106	93	89
105°	217	172	106	91	86
107.5°	232	181	106	89	84
110°	241	185	106	87	79



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	244	185	105	83	77
115°	239	181	104	80	74
117.5°	231	176	104	78	71
120°	219	169	103	77	69
122.5°	205	160	101	76	68
125°	190	151	98	76	67
127.5°	175	141	94	77	68
130°	161	131	90	77	69
132.5°	147	121	86	76	69
135°	132	111	84	73	69
137.5°	118	102	82	71	66
140°	106	96	80	70	65
142.5°	97	91	79	69	64
145°	90	86	78	70	64
147.5°	85	83	77	70	64
150°	82	81	76	70	65
152.5°	80	79	75	71	66
155°	78	77	74	71	66
157.5°	77	76	74	71	67
160°	76	75	74	71	68
162.5°	75	75	73	72	68
165°	75	74	73	72	68
167.5°	74	74	73	72	69
170°	74	74	73	72	69
172.5°	74	74	73	72	69
175°	74	74	73	73	70
177.5°	74	74	73	73	70
180°	73	73	73	73	73



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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	8.59	9.63	9.45	10.53	11.65	9.24	10.28	10.10	11.18	12.30
	3H	10.69	11.64	11.56	12.54	13.69	12.02	12.97	12.88	13.87	15.02
	4H	11.47	12.38	12.35	13.28	14.44	13.47	14.38	14.36	15.29	16.45
	6H	12.05	12.89	12.94	13.80	14.98	15.10	15.94	15.99	16.85	18.03
	8H	12.24	13.04	13.14	13.97	15.15	15.96	16.77	16.86	17.70	18.87
	12H	12.36	13.13	13.26	14.05	15.25	16.91	17.68	17.82	18.61	19.81
4H	2H	9.42	10.33	10.31	11.23	12.39	9.91	10.81	10.80	11.72	12.88
	3H	11.77	12.54	12.66	13.48	14.66	12.91	13.69	13.81	14.62	15.80
	4H	12.73	13.44	13.64	14.38	15.58	14.54	15.26	15.45	16.19	17.39
	6H	13.48	14.11	14.40	15.07	16.27	16.35	16.99	17.27	17.94	19.14
	8H	13.76	14.35	14.68	15.30	16.52	17.33	17.92	18.25	18.87	20.09
	12H	13.95	14.50	14.90	15.46	16.69	18.39	18.94	19.34	19.90	21.12
8H	4H	13.45	14.04	14.37	14.99	16.21	14.95	15.54	15.87	16.49	17.71
	6H	14.48	14.99	15.43	15.97	17.19	16.99	17.49	17.94	18.48	19.70
	8H	14.94	15.39	15.89	16.37	17.60	18.13	18.59	19.09	19.56	20.79
	12H	15.31	15.71	16.27	16.69	17.96	19.40	19.80	20.36	20.78	22.05
12H	4H	13.66	14.20	14.60	15.17	16.39	14.99	15.53	15.93	16.50	17.72
	6H	14.85	15.31	15.81	16.28	17.51	17.11	17.57	18.07	18.55	19.78
	8H	15.44	15.84	16.40	16.82	18.09	18.34	18.75	19.30	19.72	20.99