

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: P624726

Luminaire Tested: S930DIP-W540-X4-USTD-W

Issue Date: 11/3/2022

**Test Information**

Test Method: LM-79-2019  
Report Number: P624726  
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-W540-X4-USTD-W  
Description: NEO-RAY COVERA DIRECT/INDIRECT 4-FOOT LED WaveStream LUMINAIRE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

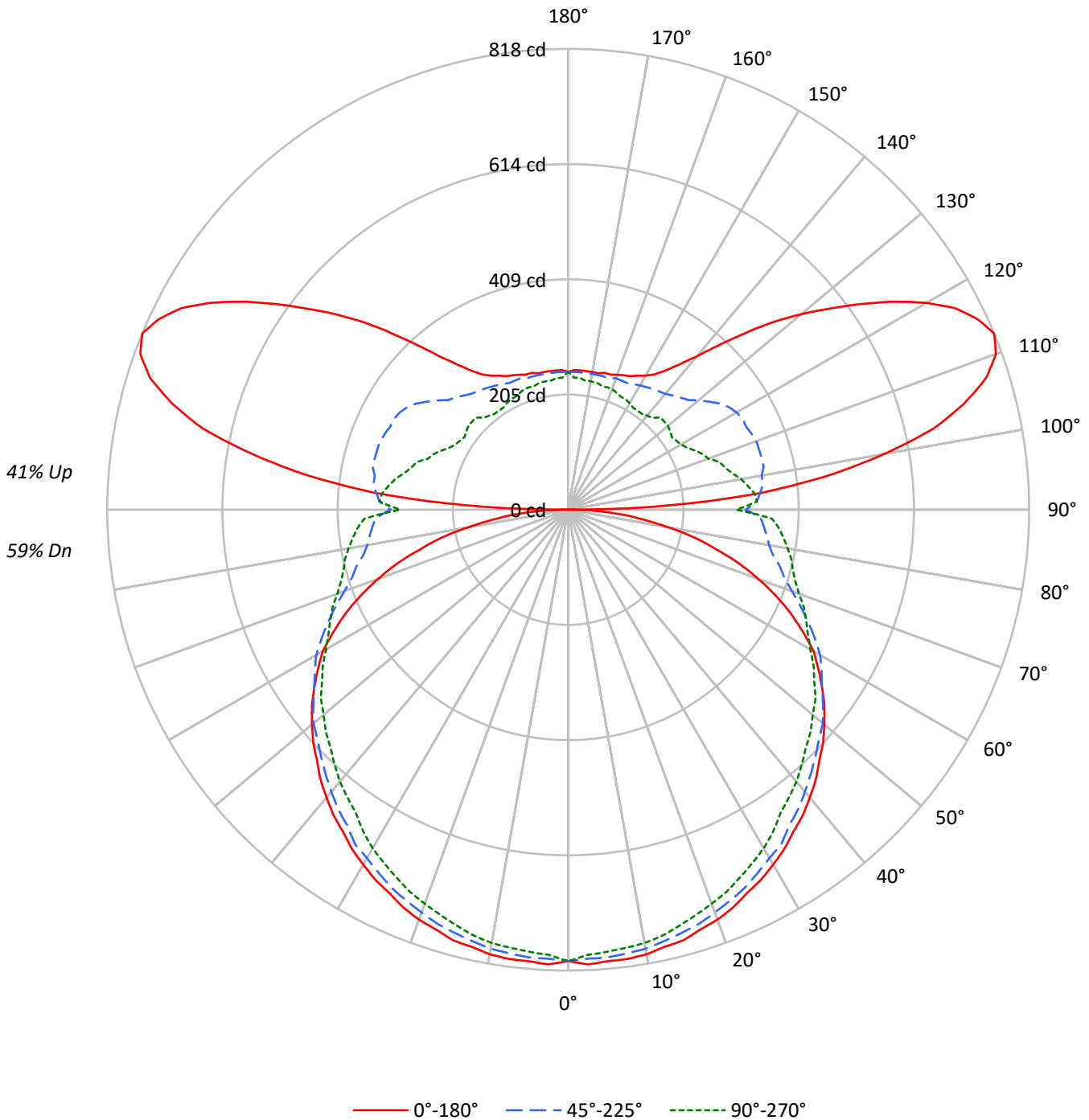
Lumens per Lamp: N/A  
Luminaire Lumens: 5425.4 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')  
CIE Type: General Diffuse

Input Watts (W): 68.2  
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	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°	3375	3375	3375
5°	3389	3313	3260
10°	3401	3264	3199
15°	3410	3213	3124
20°	3417	3171	3058
25°	3420	3139	3000
30°	3451	3101	2949
35°	3479	3070	2875
40°	3539	3061	2864
45°	3597	3059	2843
50°	3696	3100	2860
55°	3801	3114	2884
60°	3939	3199	2916
65°	3973	3237	3023
70°	3946	3313	3182
75°	3801	3566	3471
80°	3522	4034	3969
85°	3031	4996	4703

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 90°  
 Luminance: 8418 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.1	1.4
10°-20°	220.3	4.1
20°-30°	341.7	6.3
30°-40°	428.6	7.9
40°-50°	478.2	8.8
50°-60°	490.7	9.0
60°-70°	456.9	8.4
70°-80°	389.4	7.2
80°-90°	326.6	6.0
90°-100°	373.0	6.9
100°-110°	457.1	8.4
110°-120°	432.7	8.0
120°-130°	341.4	6.3
130°-140°	240.7	4.4
140°-150°	165.0	3.0
150°-160°	114.7	2.1
160°-170°	69.1	1.3
170°-180°	23.3	0.4
0°-30°	638.2	11.8
0°-40°	1066.7	19.7
0°-60°	2035.6	37.5
0°-90°	3208.5	59.1
90°-120°	1262.8	23.3
90°-150°	2009.9	37.0
90°-180°	2217.0	40.9
0°-180°	5425.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	804	804	798	798	788	77
15°	791	788	778	778	764	223
25°	751	748	741	738	721	347
35°	697	690	684	677	657	438
45°	630	624	620	617	597	488
55°	550	543	550	556	533	492
65°	436	446	469	476	466	430
75°	272	318	389	419	412	288
85°	94	241	349	375	375	93
90°	0	272	315	312	298	32
95°	345	375	342	339	332	323
105°	727	577	355	305	288	755
115°	801	607	349	268	248	786
125°	637	506	328	255	225	573
135°	442	372	282	245	231	346
145°	302	288	262	235	214	194
155°	262	258	248	238	221	122
165°	251	248	245	241	228	71
175°	248	248	245	245	235	24
180°	245	245	245	245	245	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	801.2	801.2	801.2	801.2	801.2
2.5°	807.9	804.5	797.8	801.2	791.1
5°	804.5	804.5	797.8	797.8	787.8
7.5°	804.5	801.2	794.5	794.5	784.4
10°	801.2	797.8	791.1	791.1	781.0
12.5°	794.5	794.5	784.4	784.4	774.3
15°	791.1	787.8	777.7	777.7	764.3
17.5°	781.0	777.7	771.0	767.6	754.2
20°	774.3	771.0	760.9	757.6	744.2
22.5°	764.3	760.9	750.9	747.5	734.1
25°	750.9	747.5	740.8	737.5	720.7
27.5°	740.8	737.5	727.4	724.1	707.3
30°	727.4	724.1	714.0	707.3	693.9
32.5°	714.0	707.3	703.9	693.9	677.1
35°	697.2	690.5	683.8	677.1	657.0
37.5°	683.8	677.1	670.4	663.7	643.6
40°	667.1	657.0	653.7	647.0	630.2
42.5°	650.3	640.3	636.9	633.6	613.4
45°	630.2	623.5	620.1	616.8	596.7
47.5°	613.4	603.4	603.4	600.0	583.3
50°	593.3	583.3	590.0	586.6	566.5
52.5°	573.2	566.5	569.9	573.2	553.1
55°	549.8	543.0	549.8	556.5	533.0
57.5°	526.3	522.9	533.0	536.3	516.2
60°	502.8	499.5	516.2	516.2	496.1
62.5°	469.3	472.7	492.8	496.1	479.4
65°	435.8	445.8	469.3	476.0	465.9
67.5°	398.9	419.0	445.8	462.6	452.5
70°	358.7	388.8	422.4	445.8	435.8
72.5°	318.5	355.3	402.3	432.4	422.4
75°	271.5	318.5	388.8	419.0	412.3
77.5°	231.3	284.9	372.1	409.0	405.6
80°	181.0	258.1	362.0	398.9	395.6
82.5°	134.1	241.4	355.3	388.8	385.5
85°	93.9	241.4	348.6	375.4	375.4
87.5°	50.3	254.8	341.9	365.4	362.0
90°	0.0	271.5	315.1	311.7	298.3
92.5°	184.4	321.8	335.2	338.6	335.2
95°	345.3	375.4	341.9	338.6	331.9
97.5°	465.9	429.1	348.6	328.5	321.8
100°	569.9	486.1	348.6	321.8	311.7
102.5°	663.7	533.0	355.3	311.7	298.3
105°	727.4	576.6	355.3	305.0	288.3
107.5°	777.7	606.7	355.3	298.3	281.6
110°	807.9	620.1	355.3	291.6	264.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	817.9	620.1	352.0	278.2	258.1
115°	801.2	606.7	348.6	268.2	248.1
117.5°	774.3	590.0	348.6	261.5	238.0
120°	734.1	566.5	345.3	258.1	231.3
122.5°	687.2	536.3	338.6	254.8	227.9
125°	636.9	506.2	328.5	254.8	224.6
127.5°	586.6	472.7	315.1	258.1	227.9
130°	539.7	439.1	301.7	258.1	231.3
132.5°	492.8	405.6	288.3	254.8	231.3
135°	442.5	372.1	281.6	244.7	231.3
137.5°	395.6	341.9	274.9	238.0	221.2
140°	355.3	321.8	268.2	234.6	217.9
142.5°	325.2	305.0	264.8	231.3	214.5
145°	301.7	288.3	261.5	234.6	214.5
147.5°	284.9	278.2	258.1	234.6	214.5
150°	274.9	271.5	254.8	234.6	217.9
152.5°	268.2	264.8	251.4	238.0	221.2
155°	261.5	258.1	248.1	238.0	221.2
157.5°	258.1	254.8	248.1	238.0	224.6
160°	254.8	251.4	248.1	238.0	227.9
162.5°	251.4	251.4	244.7	241.4	227.9
165°	251.4	248.1	244.7	241.4	227.9
167.5°	248.1	248.1	244.7	241.4	231.3
170°	248.1	248.1	244.7	241.4	231.3
172.5°	248.1	248.1	244.7	241.4	231.3
175°	248.1	248.1	244.7	244.7	234.6
177.5°	248.1	248.1	244.7	244.7	234.6
180°	244.7	244.7	244.7	244.7	244.7



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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	12.79	13.84	13.65	14.73	15.86	13.45	14.49	14.30	15.38	16.51
	3H	14.89	15.84	15.76	16.74	17.89	16.22	17.17	17.09	18.07	19.22
	4H	15.67	16.58	16.56	17.49	18.65	17.68	18.58	18.56	19.49	20.65
	6H	16.25	17.09	17.15	18.01	19.18	19.30	20.14	20.19	21.05	22.23
	8H	16.44	17.24	17.34	18.18	19.35	20.16	20.97	21.07	21.90	23.08
	12H	16.56	17.33	17.47	18.25	19.46	21.12	21.89	22.03	22.81	24.02
4H	2H	13.62	14.53	14.51	15.44	16.60	14.11	15.02	15.00	15.92	17.08
	3H	15.97	16.74	16.87	17.68	18.86	17.12	17.89	18.01	18.83	20.00
	4H	16.93	17.65	17.84	18.58	19.78	18.74	19.46	19.65	20.39	21.59
	6H	17.68	18.31	18.60	19.27	20.47	20.56	21.19	21.48	22.14	23.34
	8H	17.96	18.56	18.88	19.51	20.72	21.53	22.13	22.45	23.08	24.29
	12H	18.16	18.70	19.10	19.67	20.89	22.59	23.14	23.54	24.10	25.33
8H	4H	17.65	18.25	18.58	19.20	20.41	19.15	19.74	20.07	20.69	21.91
	6H	18.68	19.19	19.63	20.18	21.39	21.19	21.70	22.14	22.69	23.90
	8H	19.14	19.59	20.09	20.57	21.80	22.33	22.79	23.29	23.77	25.00
	12H	19.51	19.92	20.47	20.89	22.17	23.60	24.01	24.56	24.98	26.26
12H	4H	17.86	18.40	18.80	19.37	20.59	19.19	19.73	20.13	20.70	21.92
	6H	19.05	19.51	20.01	20.49	21.72	21.32	21.77	22.27	22.75	23.98
	8H	19.64	20.04	20.60	21.02	22.29	22.54	22.95	23.51	23.92	25.20