

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: P624722

Luminaire Tested: S930DIP-W535-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624722
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-W535-X4-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 4-FOOT LED WaveStream LUMINAIRE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

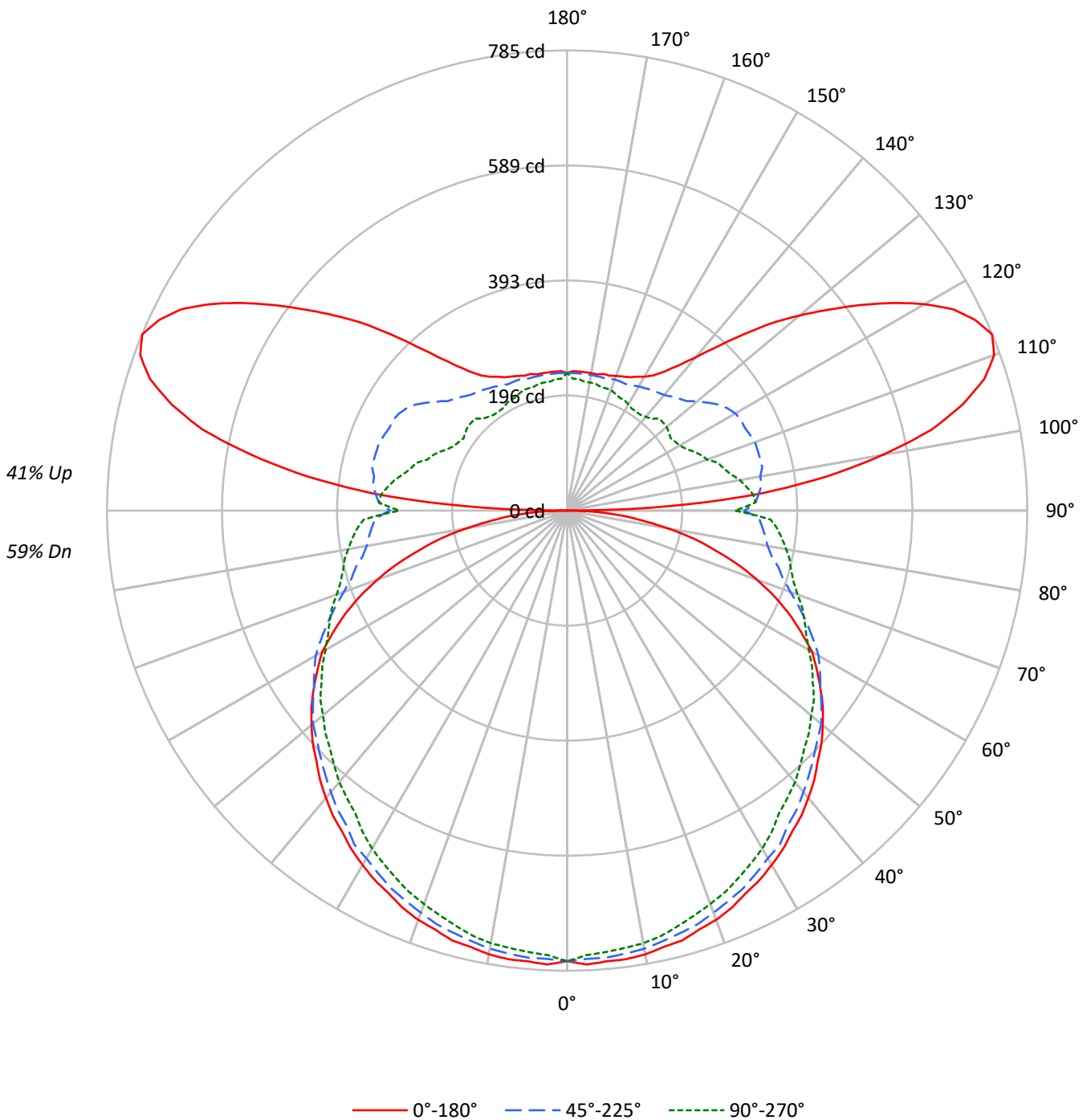
Lumens per Lamp: N/A
Luminaire Lumens: 5205.2 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

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				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°	3237	3237	3237
5°	3251	3178	3127
10°	3262	3132	3069
15°	3272	3082	2997
20°	3278	3042	2933
25°	3281	3011	2878
30°	3311	2975	2829
35°	3338	2946	2758
40°	3395	2937	2748
45°	3451	2935	2728
50°	3546	2973	2744
55°	3646	2987	2767
60°	3779	3069	2798
65°	3812	3105	2900
70°	3785	3178	3052
75°	3647	3422	3331
80°	3380	3870	3807
85°	2906	4794	4513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 8077 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.0	1.4
10°-20°	211.4	4.1
20°-30°	327.9	6.3
30°-40°	411.2	7.9
40°-50°	458.8	8.8
50°-60°	470.7	9.0
60°-70°	438.3	8.4
70°-80°	373.6	7.2
80°-90°	313.4	6.0
90°-100°	357.9	6.9
100°-110°	438.5	8.4
110°-120°	415.1	8.0
120°-130°	327.6	6.3
130°-140°	230.9	4.4
140°-150°	158.3	3.0
150°-160°	110.0	2.1
160°-170°	66.3	1.3
170°-180°	22.3	0.4
0°-30°	612.2	11.8
0°-40°	1023.4	19.7
0°-60°	1953.0	37.5
0°-90°	3078.2	59.1
90°-120°	1211.5	23.3
90°-150°	1928.3	37.0
90°-180°	2127.0	40.9
0°-180°	5205.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	769	769	769	769	769	
5°	772	772	765	765	756	74
15°	759	756	746	746	733	214
25°	720	717	711	708	691	333
35°	669	662	656	650	630	420
45°	605	598	595	592	572	468
55°	527	521	527	534	511	472
65°	418	428	450	457	447	412
75°	260	306	373	402	396	276
85°	90	232	334	360	360	90
90°	0	260	302	299	286	31
95°	331	360	328	325	318	310
105°	698	553	341	293	277	724
115°	769	582	334	257	238	754
125°	611	486	315	244	216	550
135°	424	357	270	235	222	332
145°	289	277	251	225	206	186
155°	251	248	238	228	212	117
165°	241	238	235	232	219	68
175°	238	238	235	235	225	23
180°	235	235	235	235	235	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	768.6	768.6	768.6	768.6	768.6
2.5°	775.1	771.8	765.4	768.6	759.0
5°	771.8	771.8	765.4	765.4	755.8
7.5°	771.8	768.6	762.2	762.2	752.6
10°	768.6	765.4	759.0	759.0	749.3
12.5°	762.2	762.2	752.6	752.6	742.9
15°	759.0	755.8	746.1	746.1	733.3
17.5°	749.3	746.1	739.7	736.5	723.6
20°	742.9	739.7	730.0	726.8	714.0
22.5°	733.3	730.0	720.4	717.2	704.3
25°	720.4	717.2	710.7	707.5	691.4
27.5°	710.7	707.5	697.9	694.7	678.6
30°	697.9	694.7	685.0	678.6	665.7
32.5°	685.0	678.6	675.4	665.7	649.6
35°	668.9	662.5	656.1	649.6	630.3
37.5°	656.1	649.6	643.2	636.8	617.5
40°	640.0	630.3	627.1	620.7	604.6
42.5°	623.9	614.3	611.0	607.8	588.5
45°	604.6	598.2	595.0	591.8	572.5
47.5°	588.5	578.9	578.9	575.7	559.6
50°	569.2	559.6	566.0	562.8	543.5
52.5°	549.9	543.5	546.7	549.9	530.6
55°	527.4	521.0	527.4	533.9	511.4
57.5°	504.9	501.7	511.4	514.6	495.3
60°	482.4	479.2	495.3	495.3	476.0
62.5°	450.2	453.5	472.8	476.0	459.9
65°	418.1	427.7	450.2	456.7	447.0
67.5°	382.7	402.0	427.7	443.8	434.2
70°	344.1	373.1	405.2	427.7	418.1
72.5°	305.5	340.9	385.9	414.9	405.2
75°	260.5	305.5	373.1	402.0	395.6
77.5°	221.9	273.4	357.0	392.4	389.1
80°	173.7	247.6	347.3	382.7	379.5
82.5°	128.6	231.6	340.9	373.1	369.8
85°	90.0	231.6	334.5	360.2	360.2
87.5°	48.2	244.4	328.0	350.5	347.3
90°	0.0	260.5	302.3	299.1	286.2
92.5°	176.9	308.7	321.6	324.8	321.6
95°	331.3	360.2	328.0	324.8	318.4
97.5°	447.0	411.7	334.5	315.2	308.7
100°	546.7	466.3	334.5	308.7	299.1
102.5°	636.8	511.4	340.9	299.1	286.2
105°	697.9	553.2	340.9	292.7	276.6
107.5°	746.1	582.1	340.9	286.2	270.1
110°	775.1	595.0	340.9	279.8	254.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	784.7	595.0	337.7	266.9	247.6
115°	768.6	582.1	334.5	257.3	238.0
117.5°	742.9	566.0	334.5	250.9	228.3
120°	704.3	543.5	331.3	247.6	221.9
122.5°	659.3	514.6	324.8	244.4	218.7
125°	611.0	485.6	315.2	244.4	215.5
127.5°	562.8	453.5	302.3	247.6	218.7
130°	517.8	421.3	289.4	247.6	221.9
132.5°	472.8	389.1	276.6	244.4	221.9
135°	424.5	357.0	270.1	234.8	221.9
137.5°	379.5	328.0	263.7	228.3	212.3
140°	340.9	308.7	257.3	225.1	209.0
142.5°	312.0	292.7	254.1	221.9	205.8
145°	289.4	276.6	250.9	225.1	205.8
147.5°	273.4	266.9	247.6	225.1	205.8
150°	263.7	260.5	244.4	225.1	209.0
152.5°	257.3	254.1	241.2	228.3	212.3
155°	250.9	247.6	238.0	228.3	212.3
157.5°	247.6	244.4	238.0	228.3	215.5
160°	244.4	241.2	238.0	228.3	218.7
162.5°	241.2	241.2	234.8	231.6	218.7
165°	241.2	238.0	234.8	231.6	218.7
167.5°	238.0	238.0	234.8	231.6	221.9
170°	238.0	238.0	234.8	231.6	221.9
172.5°	238.0	238.0	234.8	231.6	221.9
175°	238.0	238.0	234.8	234.8	225.1
177.5°	238.0	238.0	234.8	234.8	225.1
180°	234.8	234.8	234.8	234.8	234.8



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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	12.65	13.69	13.51	14.58	15.71	13.30	14.34	14.16	15.24	16.36
	3H	14.75	15.70	15.61	16.60	17.75	16.08	17.03	16.94	17.93	19.08
	4H	15.53	16.44	16.41	17.34	18.50	17.53	18.44	18.41	19.34	20.50
	6H	16.11	16.95	17.00	17.86	19.04	19.15	20.00	20.05	20.91	22.08
	8H	16.29	17.10	17.20	18.03	19.21	20.02	20.83	20.92	21.76	22.93
	12H	16.41	17.18	17.32	18.11	19.31	20.97	21.74	21.88	22.67	23.87
4H	2H	13.48	14.39	14.37	15.29	16.45	13.97	14.87	14.85	15.78	16.94
	3H	15.83	16.60	16.72	17.54	18.71	16.97	17.75	17.87	18.68	19.86
	4H	16.78	17.50	17.69	18.43	19.63	18.60	19.32	19.51	20.25	21.45
	6H	17.54	18.17	18.46	19.13	20.32	20.41	21.04	21.33	22.00	23.20
	8H	17.82	18.41	18.74	19.36	20.58	21.39	21.98	22.31	22.93	24.15
	12H	18.01	18.56	18.96	19.52	20.75	22.45	22.99	23.40	23.96	25.18
8H	4H	17.51	18.10	18.43	19.05	20.27	19.01	19.60	19.93	20.55	21.77
	6H	18.54	19.04	19.49	20.03	21.25	21.05	21.55	22.00	22.54	23.76
	8H	18.99	19.45	19.95	20.43	21.66	22.19	22.64	23.15	23.62	24.85
	12H	19.37	19.77	20.33	20.75	22.02	23.46	23.86	24.42	24.84	26.11
12H	4H	17.71	18.26	18.66	19.22	20.45	19.04	19.59	19.99	20.55	21.78
	6H	18.91	19.36	19.87	20.34	21.57	21.17	21.63	22.13	22.60	23.84
	8H	19.50	19.90	20.46	20.87	22.15	22.40	22.80	23.36	23.78	25.05