

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: P624694

Luminaire Tested: S930DIP-W340-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624694
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-W340-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

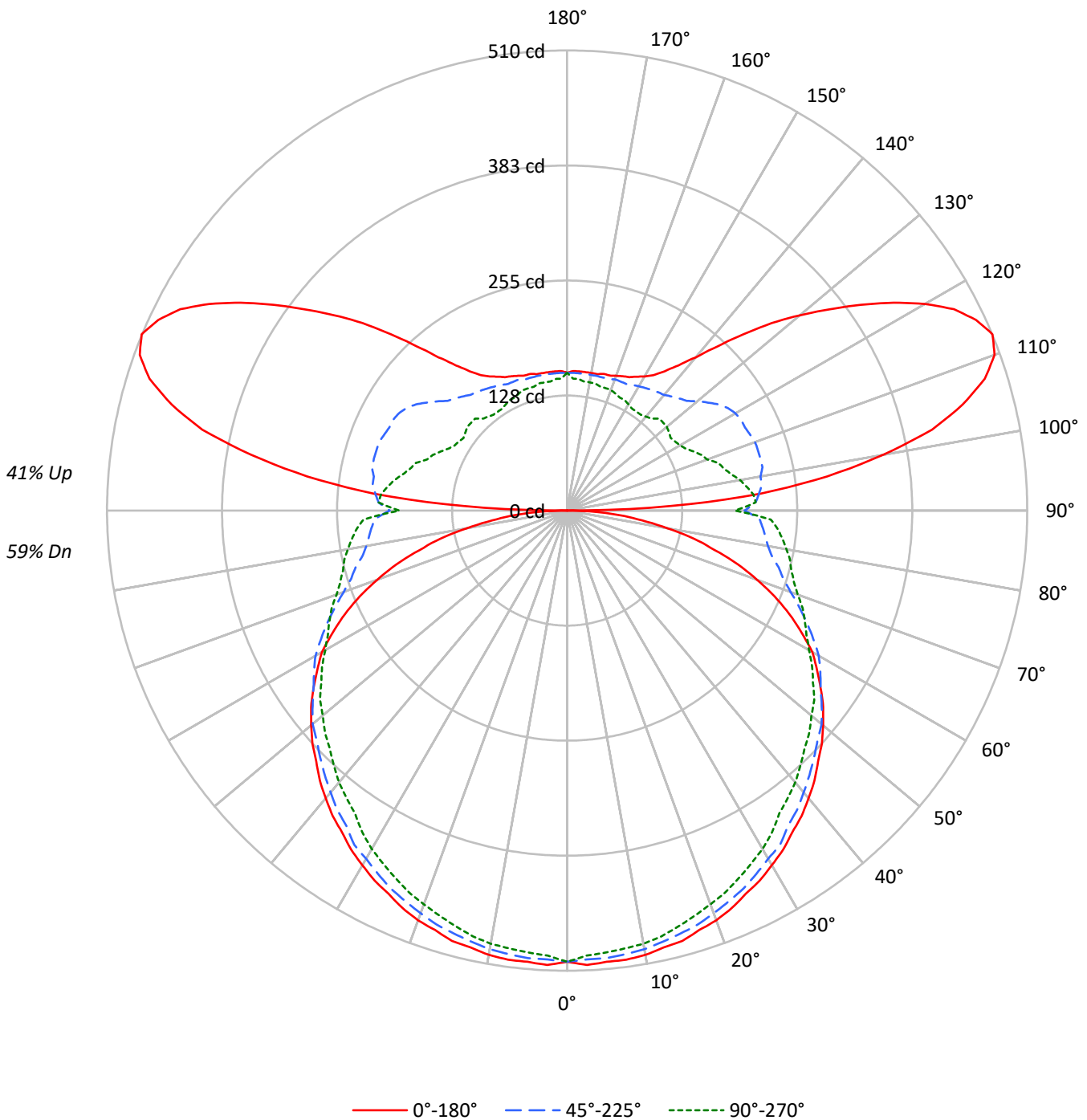
Lumens per Lamp: N/A
Luminaire Lumens: 3385.7 lumens
Efficiency: N/A
Efficacy: 114.8 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 29.5
Input Voltage (V): 120
Input Current (A_{in}): 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°	2106	2106	2106
5°	2114	2068	2034
10°	2122	2037	1997
15°	2128	2005	1949
20°	2132	1979	1908
25°	2134	1959	1872
30°	2154	1935	1840
35°	2171	1916	1794
40°	2208	1910	1788
45°	2245	1909	1774
50°	2307	1934	1785
55°	2372	1944	1800
60°	2458	1996	1820
65°	2479	2020	1887
70°	2462	2067	1985
75°	2372	2226	2166
80°	2199	2517	2476
85°	1892	3119	2935

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 5253 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.5	1.4
10°-20°	137.5	4.1
20°-30°	213.3	6.3
30°-40°	267.5	7.9
40°-50°	298.4	8.8
50°-60°	306.2	9.0
60°-70°	285.1	8.4
70°-80°	243.0	7.2
80°-90°	203.8	6.0
90°-100°	232.8	6.9
100°-110°	285.2	8.4
110°-120°	270.0	8.0
120°-130°	213.1	6.3
130°-140°	150.2	4.4
140°-150°	102.9	3.0
150°-160°	71.6	2.1
160°-170°	43.1	1.3
170°-180°	14.5	0.4
0°-30°	398.2	11.8
0°-40°	665.7	19.7
0°-60°	1270.3	37.5
0°-90°	2002.2	59.1
90°-120°	788.0	23.3
90°-150°	1254.2	37.0
90°-180°	1383.0	40.8
0°-180°	3385.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	500	500	500	500	500	
5°	502	502	498	498	492	48
15°	494	492	485	485	477	139
25°	469	466	462	460	450	217
35°	435	431	427	423	410	273
45°	393	389	387	385	372	304
55°	343	339	343	347	333	307
65°	272	278	293	297	291	268
75°	169	199	243	262	257	180
85°	59	151	218	234	234	58
90°	0	169	197	194	186	20
95°	216	234	213	211	207	202
105°	454	360	222	190	180	471
115°	500	379	218	167	155	490
125°	398	316	205	159	140	358
135°	276	232	176	153	144	216
145°	188	180	163	146	134	121
155°	163	161	155	148	138	76
165°	157	155	153	151	142	44
175°	155	155	153	153	146	15
180°	153	153	153	153	153	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	500.0	500.0	500.0	500.0	500.0
2.5°	504.1	502.0	497.9	500.0	493.7
5°	502.0	502.0	497.9	497.9	491.6
7.5°	502.0	500.0	495.8	495.8	489.5
10°	500.0	497.9	493.7	493.7	487.4
12.5°	495.8	495.8	489.5	489.5	483.2
15°	493.7	491.6	485.3	485.3	476.9
17.5°	487.4	485.3	481.1	479.0	470.7
20°	483.2	481.1	474.8	472.8	464.4
22.5°	476.9	474.8	468.6	466.5	458.1
25°	468.6	466.5	462.3	460.2	449.7
27.5°	462.3	460.2	453.9	451.8	441.4
30°	453.9	451.8	445.6	441.4	433.0
32.5°	445.6	441.4	439.3	433.0	422.6
35°	435.1	430.9	426.7	422.6	410.0
37.5°	426.7	422.6	418.4	414.2	401.6
40°	416.3	410.0	407.9	403.7	393.3
42.5°	405.8	399.5	397.5	395.4	382.8
45°	393.3	389.1	387.0	384.9	372.3
47.5°	382.8	376.5	376.5	374.4	364.0
50°	370.3	364.0	368.2	366.1	353.5
52.5°	357.7	353.5	355.6	357.7	345.2
55°	343.1	338.9	343.1	347.2	332.6
57.5°	328.4	326.3	332.6	334.7	322.1
60°	313.8	311.7	322.1	322.1	309.6
62.5°	292.9	295.0	307.5	309.6	299.1
65°	271.9	278.2	292.9	297.0	290.8
67.5°	248.9	261.5	278.2	288.7	282.4
70°	223.8	242.7	263.6	278.2	271.9
72.5°	198.7	221.7	251.0	269.8	263.6
75°	169.4	198.7	242.7	261.5	257.3
77.5°	144.3	177.8	232.2	255.2	253.1
80°	113.0	161.1	225.9	248.9	246.8
82.5°	83.7	150.6	221.7	242.7	240.6
85°	58.6	150.6	217.6	234.3	234.3
87.5°	31.4	159.0	213.4	228.0	225.9
90°	0.0	169.4	196.6	194.5	186.2
92.5°	115.1	200.8	209.2	211.3	209.2
95°	215.5	234.3	213.4	211.3	207.1
97.5°	290.8	267.8	217.6	205.0	200.8
100°	355.6	303.3	217.6	200.8	194.5
102.5°	414.2	332.6	221.7	194.5	186.2
105°	453.9	359.8	221.7	190.4	179.9
107.5°	485.3	378.6	221.7	186.2	175.7
110°	504.1	387.0	221.7	182.0	165.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	510.4	387.0	219.6	173.6	161.1
115°	500.0	378.6	217.6	167.3	154.8
117.5°	483.2	368.2	217.6	163.2	148.5
120°	458.1	353.5	215.5	161.1	144.3
122.5°	428.8	334.7	211.3	159.0	142.2
125°	397.5	315.9	205.0	159.0	140.2
127.5°	366.1	295.0	196.6	161.1	142.2
130°	336.8	274.0	188.3	161.1	144.3
132.5°	307.5	253.1	179.9	159.0	144.3
135°	276.1	232.2	175.7	152.7	144.3
137.5°	246.8	213.4	171.5	148.5	138.1
140°	221.7	200.8	167.3	146.4	136.0
142.5°	202.9	190.4	165.3	144.3	133.9
145°	188.3	179.9	163.2	146.4	133.9
147.5°	177.8	173.6	161.1	146.4	133.9
150°	171.5	169.4	159.0	146.4	136.0
152.5°	167.3	165.3	156.9	148.5	138.1
155°	163.2	161.1	154.8	148.5	138.1
157.5°	161.1	159.0	154.8	148.5	140.2
160°	159.0	156.9	154.8	148.5	142.2
162.5°	156.9	156.9	152.7	150.6	142.2
165°	156.9	154.8	152.7	150.6	142.2
167.5°	154.8	154.8	152.7	150.6	144.3
170°	154.8	154.8	152.7	150.6	144.3
172.5°	154.8	154.8	152.7	150.6	144.3
175°	154.8	154.8	152.7	152.7	146.4
177.5°	154.8	154.8	152.7	152.7	146.4
180°	152.7	152.7	152.7	152.7	152.7



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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	11.16	12.20	12.01	13.09	14.22	11.81	12.85	12.66	13.74	14.87
	3H	13.25	14.20	14.12	15.10	16.26	14.58	15.53	15.45	16.43	17.58
	4H	14.04	14.94	14.92	15.85	17.01	16.04	16.94	16.92	17.85	19.01
	6H	14.61	15.45	15.51	16.37	17.54	17.66	18.50	18.55	19.41	20.59
	8H	14.80	15.61	15.70	16.54	17.71	18.53	19.33	19.43	20.26	21.44
	12H	14.92	15.69	15.83	16.62	17.82	19.48	20.25	20.39	21.17	22.38
4H	2H	11.99	12.89	12.87	13.80	14.96	12.47	13.38	13.36	14.28	15.44
	3H	14.33	15.11	15.23	16.04	17.22	15.48	16.25	16.38	17.19	18.37
	4H	15.29	16.01	16.20	16.94	18.14	17.11	17.82	18.01	18.75	19.96
	6H	16.05	16.68	16.97	17.63	18.83	18.92	19.55	19.84	20.50	21.70
	8H	16.32	16.92	17.25	17.87	19.08	19.89	20.49	20.82	21.44	22.65
	12H	16.52	17.06	17.46	18.03	19.25	20.96	21.50	21.90	22.47	23.69
8H	4H	16.01	16.61	16.94	17.56	18.77	17.51	18.11	18.43	19.06	20.27
	6H	17.04	17.55	17.99	18.54	19.75	19.55	20.06	20.50	21.05	22.26
	8H	17.50	17.95	18.46	18.93	20.16	20.70	21.15	21.65	22.13	23.36
	12H	17.87	18.28	18.84	19.25	20.53	21.96	22.37	22.93	23.34	24.62
12H	4H	16.22	16.76	17.17	17.73	18.95	17.55	18.09	18.49	19.06	20.28
	6H	17.42	17.87	18.37	18.85	20.08	19.68	20.13	20.63	21.11	22.34
	8H	18.00	18.41	18.97	19.38	20.66	20.90	21.31	21.87	22.28	23.56