

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: P624708

Luminaire Tested: S930DIP-W440-X2-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624708
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-W440-X2-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

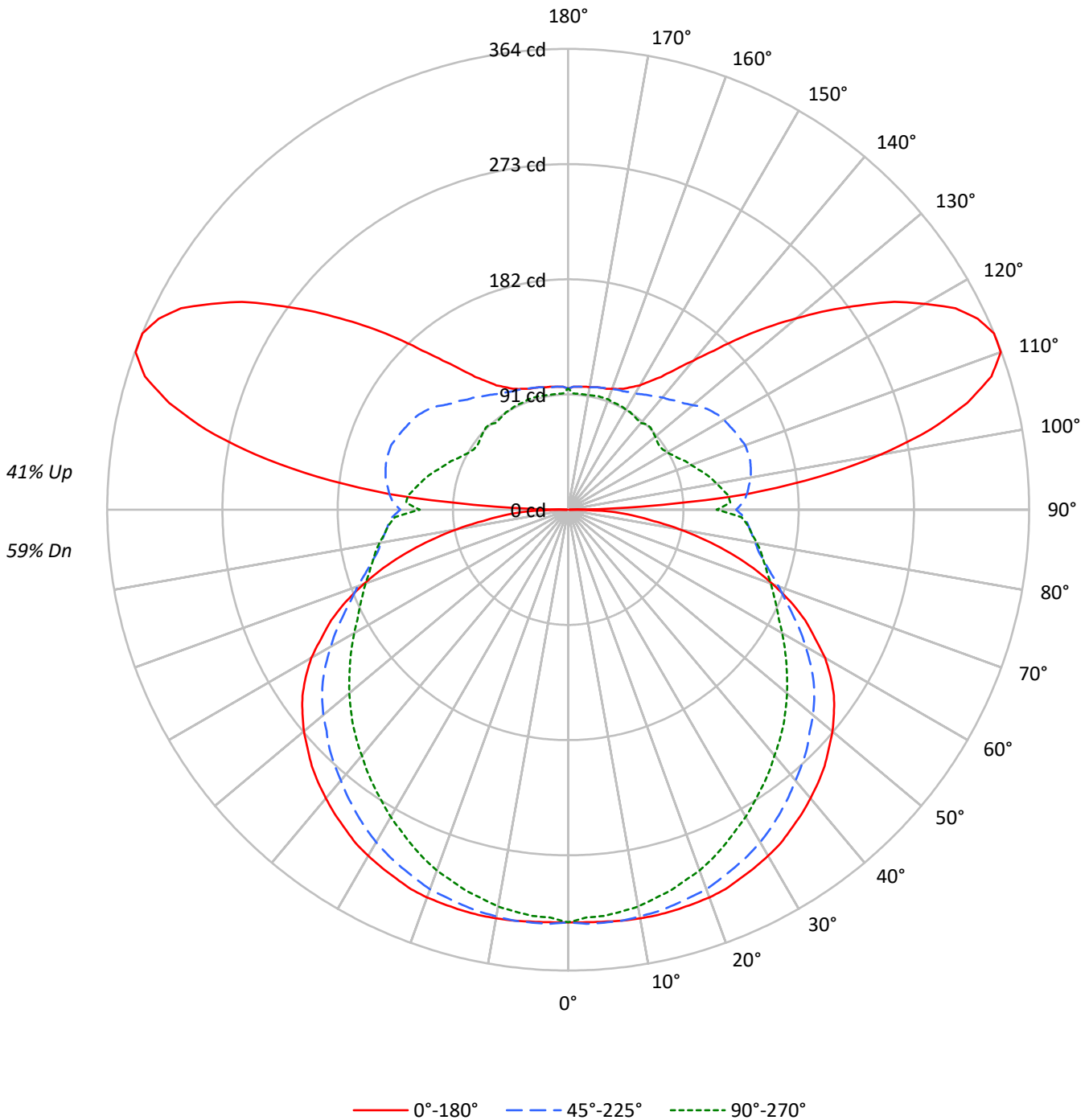
Lumens per Lamp: N/A
Luminaire Lumens: 2291.3 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 21.2
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	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°	2745	2745	2745
5°	2741	2712	2665
10°	2762	2678	2608
15°	2790	2650	2547
20°	2832	2632	2492
25°	2871	2607	2433
30°	2924	2593	2383
35°	2980	2573	2338
40°	3050	2559	2304
45°	3138	2566	2291
50°	3235	2576	2279
55°	3347	2593	2275
60°	3431	2583	2294
65°	3467	2579	2356
70°	3415	2630	2487
75°	3258	2765	2696
80°	2914	3093	3038
85°	2467	3707	3568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 5877 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.1	1.4
10°-20°	91.1	4.0
20°-30°	143.1	6.2
30°-40°	181.9	7.9
40°-50°	204.9	8.9
50°-60°	209.9	9.2
60°-70°	194.1	8.5
70°-80°	163.0	7.1
80°-90°	134.7	5.9
90°-100°	155.2	6.8
100°-110°	195.0	8.5
110°-120°	185.5	8.1
120°-130°	145.2	6.3
130°-140°	102.5	4.5
140°-150°	69.9	3.1
150°-160°	47.3	2.1
160°-170°	27.9	1.2
170°-180°	9.2	0.4
0°-30°	265.3	11.6
0°-40°	447.2	19.5
0°-60°	862.0	37.6
0°-90°	1353.7	59.1
90°-120°	535.6	23.4
90°-150°	853.2	37.2
90°-180°	938.0	40.9
0°-180°	2291.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	326	326	326	326	326	
5°	327	327	327	327	322	31
15°	327	326	323	319	312	93
25°	321	319	312	302	292	149
35°	307	302	292	280	267	193
45°	286	278	267	253	240	221
55°	256	246	237	223	210	228
65°	206	203	196	191	182	203
75°	133	142	160	165	160	139
85°	51	110	143	145	142	49
90°	1	123	133	123	117	13
95°	142	171	142	131	127	135
105°	326	258	149	120	112	337
115°	357	272	145	108	96	350
125°	281	223	137	101	88	253
135°	192	162	122	102	92	150
145°	128	122	110	100	90	82
155°	106	106	103	99	92	49
165°	100	100	100	98	93	28
175°	98	98	98	97	92	9
180°	96	96	96	96	96	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	325.9	325.9	325.9	325.9	325.9
2.5°	326.2	326.6	327.4	327.4	322.5
5°	326.6	327.0	327.4	327.0	322.1
7.5°	327.4	327.0	327.4	325.9	320.2
10°	327.8	327.4	326.2	324.4	318.3
12.5°	327.8	327.0	325.1	321.4	314.6
15°	327.4	326.2	323.2	318.7	311.6
17.5°	326.6	325.5	321.0	314.9	307.0
20°	325.9	324.0	319.1	311.9	303.3
22.5°	324.4	321.4	315.3	307.4	298.0
25°	321.4	318.7	311.6	302.1	292.3
27.5°	318.7	315.3	307.8	296.9	285.9
30°	315.7	311.6	303.3	291.2	280.3
32.5°	312.3	307.4	298.0	285.6	273.5
35°	307.4	302.1	292.0	279.5	267.1
37.5°	302.9	297.2	285.9	273.1	260.7
40°	297.6	291.2	279.2	266.0	253.5
42.5°	292.3	285.2	273.1	260.3	247.1
45°	286.3	278.0	266.7	253.2	240.4
47.5°	279.2	270.9	258.8	246.0	232.8
50°	272.4	264.1	252.4	238.5	225.7
52.5°	264.5	255.8	244.9	230.6	217.8
55°	256.2	246.4	236.6	223.0	210.2
57.5°	245.6	237.3	226.8	214.4	202.7
60°	234.3	226.4	216.6	206.1	195.1
62.5°	219.6	215.1	206.4	198.2	187.6
65°	206.4	203.4	195.5	190.6	181.6
67.5°	190.2	191.0	185.4	183.5	175.6
70°	171.8	176.3	176.7	177.1	170.3
72.5°	153.3	159.7	168.0	170.3	164.6
75°	132.6	142.4	160.5	165.4	160.1
77.5°	110.8	126.2	154.1	160.9	156.0
80°	89.7	114.9	149.9	156.0	151.4
82.5°	67.8	109.3	146.2	150.3	146.2
85°	50.9	109.6	142.8	145.4	142.4
87.5°	32.8	114.5	139.4	140.1	137.1
90°	0.8	122.8	132.6	123.2	117.2
92.5°	58.0	146.2	138.6	131.9	128.1
95°	142.0	171.4	141.7	130.7	127.0
97.5°	200.4	197.4	143.9	128.1	122.8
100°	250.5	220.0	146.5	125.8	119.0
102.5°	293.5	240.7	147.7	122.8	115.3
105°	326.2	257.7	148.8	119.8	111.5
107.5°	350.4	270.1	148.8	116.8	107.0
110°	363.5	278.0	148.8	113.8	103.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	363.9	278.0	146.9	110.0	100.2
115°	356.8	272.4	145.4	107.7	96.1
117.5°	344.7	263.3	143.5	104.4	93.1
120°	325.1	252.0	142.0	102.5	90.4
122.5°	305.5	238.1	139.8	101.7	88.5
125°	281.4	223.4	136.8	101.3	87.8
127.5°	258.4	208.0	133.4	101.7	88.5
130°	235.1	192.5	128.5	102.8	89.7
132.5°	213.2	175.6	124.3	103.2	90.8
135°	191.8	161.6	121.7	102.5	91.9
137.5°	170.3	148.8	117.9	100.2	91.5
140°	153.7	138.3	115.7	99.5	89.3
142.5°	139.8	129.2	112.6	99.8	89.7
145°	128.1	122.4	110.4	99.8	90.4
147.5°	120.2	116.8	108.1	99.8	91.2
150°	113.4	111.9	105.9	99.5	91.2
152.5°	109.3	108.5	104.7	99.5	91.9
155°	105.5	105.5	103.2	99.1	91.9
157.5°	103.2	103.2	102.5	98.7	91.9
160°	101.7	102.1	101.3	98.7	92.7
162.5°	100.2	100.6	100.6	98.3	92.7
165°	99.8	99.8	99.8	98.0	92.7
167.5°	99.1	99.1	99.1	97.6	92.3
170°	98.3	98.3	98.3	97.2	91.9
172.5°	98.0	97.6	97.6	96.8	91.9
175°	97.6	97.6	97.6	96.8	91.9
177.5°	97.2	97.2	97.2	96.4	91.9
180°	95.7	95.7	95.7	95.7	95.7



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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	12.66	13.70	13.52	14.60	15.72	12.30	13.34	13.16	14.23	15.36
	3H	14.84	15.79	15.71	16.69	17.85	14.95	15.90	15.82	16.80	17.96
	4H	15.67	16.57	16.55	17.48	18.64	16.32	17.23	17.21	18.14	19.30
	6H	16.29	17.13	17.18	18.04	19.22	17.81	18.65	18.70	19.56	20.74
	8H	16.50	17.31	17.41	18.24	19.42	18.57	19.38	19.48	20.31	21.49
	12H	16.65	17.42	17.56	18.35	19.55	19.40	20.17	20.31	21.09	22.30
4H	2H	13.32	14.22	14.20	15.13	16.29	13.04	13.95	13.93	14.85	16.02
	3H	15.75	16.53	16.65	17.46	18.64	15.92	16.69	16.82	17.63	18.81
	4H	16.75	17.47	17.66	18.40	19.60	17.45	18.17	18.36	19.10	20.30
	6H	17.55	18.18	18.47	19.14	20.34	19.11	19.74	20.03	20.70	21.90
	8H	17.86	18.45	18.79	19.41	20.62	19.98	20.57	20.91	21.53	22.74
	12H	18.10	18.64	19.04	19.61	20.83	20.91	21.45	21.85	22.42	23.64
8H	4H	17.31	17.91	18.24	18.86	20.08	17.91	18.50	18.83	19.45	20.67
	6H	18.37	18.88	19.32	19.87	21.08	19.80	20.30	20.75	21.29	22.51
	8H	18.86	19.31	19.82	20.29	21.52	20.83	21.29	21.79	22.26	23.50
	12H	19.28	19.68	20.24	20.66	21.94	21.95	22.36	22.92	23.33	24.61
12H	4H	17.46	18.00	18.41	18.97	20.19	17.96	18.50	18.91	19.47	20.69
	6H	18.66	19.11	19.62	20.09	21.32	19.95	20.40	20.90	21.38	22.61
	8H	19.26	19.67	20.23	20.64	21.92	21.07	21.47	22.03	22.45	23.72