

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: P624704

Luminaire Tested: S930DIP-W435-X2-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624704
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-W435-X2-USTD-W
Description: NEO-RAY COVERA DIRECT/INDIRECT 2-FOOT LED WaveStream LUMINAIRE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

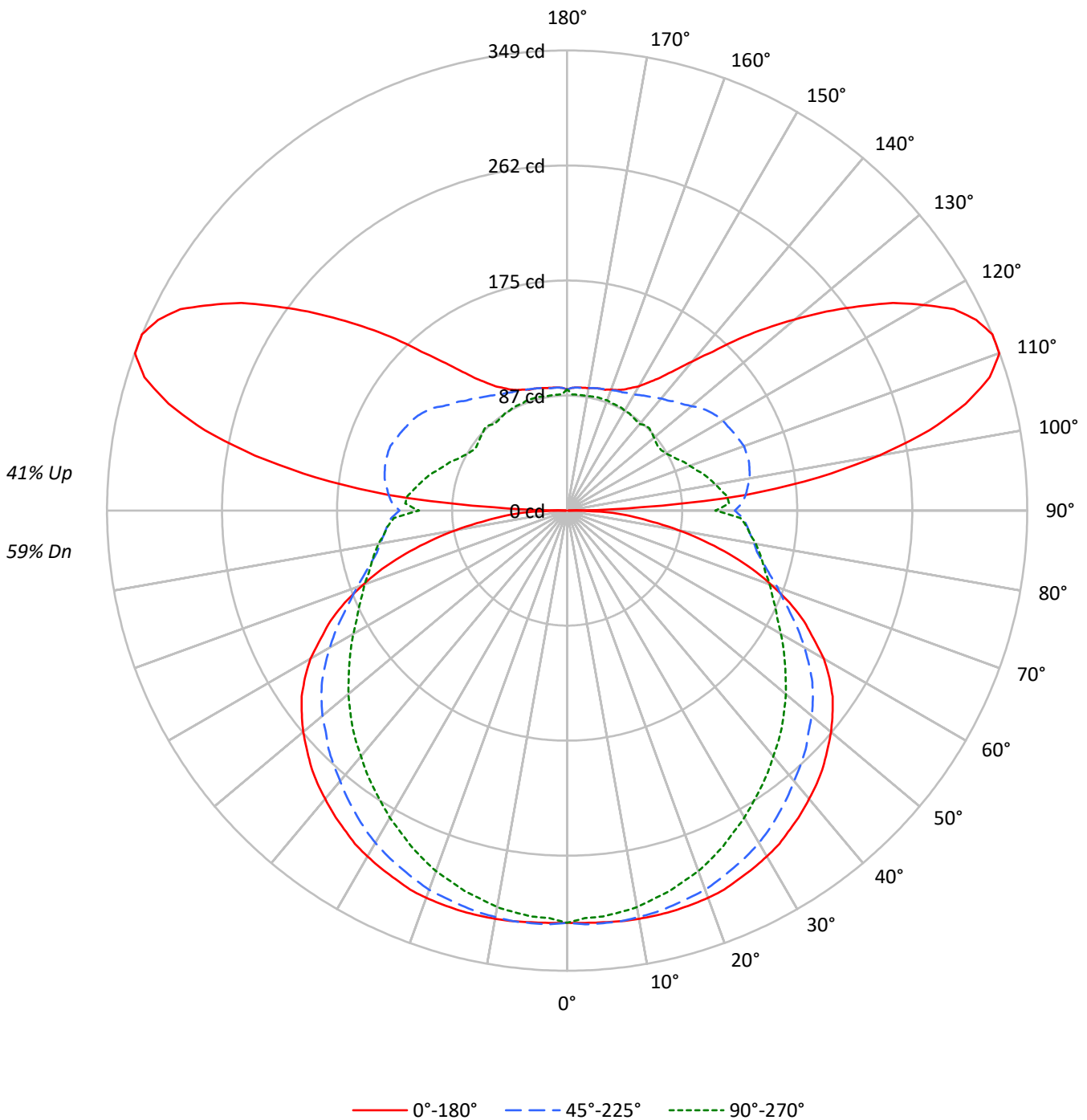
Lumens per Lamp: N/A
Luminaire Lumens: 2198.3 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.44 / 1.28 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1.92' x H: 0.17')
CIE Type: General Diffuse

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				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	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°	2633	2633	2633
5°	2630	2602	2557
10°	2649	2569	2502
15°	2677	2542	2443
20°	2716	2525	2391
25°	2754	2500	2335
30°	2805	2488	2286
35°	2859	2469	2243
40°	2926	2454	2211
45°	3011	2462	2198
50°	3103	2472	2186
55°	3211	2487	2183
60°	3292	2478	2201
65°	3328	2475	2260
70°	3276	2523	2386
75°	3126	2653	2586
80°	2794	2969	2915
85°	2366	3556	3423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 5638 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.9	1.4
10°-20°	87.4	4.0
20°-30°	137.3	6.2
30°-40°	174.5	7.9
40°-50°	196.6	8.9
50°-60°	201.4	9.2
60°-70°	186.2	8.5
70°-80°	156.4	7.1
80°-90°	129.2	5.9
90°-100°	148.9	6.8
100°-110°	187.1	8.5
110°-120°	178.0	8.1
120°-130°	139.3	6.3
130°-140°	98.3	4.5
140°-150°	67.1	3.1
150°-160°	45.3	2.1
160°-170°	26.8	1.2
170°-180°	8.9	0.4
0°-30°	254.5	11.6
0°-40°	429.0	19.5
0°-60°	827.0	37.6
0°-90°	1298.7	59.1
90°-120°	513.9	23.4
90°-150°	818.5	37.2
90°-180°	900.0	40.9
0°-180°	2198.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	313	313	313	313	313	
5°	313	314	314	314	309	30
15°	314	313	310	306	299	89
25°	308	306	299	290	280	143
35°	295	290	280	268	256	185
45°	275	267	256	243	231	212
55°	246	236	227	214	202	219
65°	198	195	188	183	174	195
75°	127	137	154	159	154	134
85°	49	105	137	140	137	47
90°	1	118	127	118	112	12
95°	136	164	136	125	122	130
105°	313	247	143	115	107	324
115°	342	261	140	103	92	336
125°	270	214	131	97	84	243
135°	184	155	117	98	88	144
145°	123	118	106	96	87	79
155°	101	101	99	95	88	47
165°	96	96	96	94	89	27
175°	94	94	94	93	88	9
180°	92	92	92	92	92	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	312.6	312.6	312.6	312.6	312.6
2.5°	313.0	313.4	314.1	314.1	309.4
5°	313.4	313.7	314.1	313.7	309.0
7.5°	314.1	313.7	314.1	312.6	307.2
10°	314.4	314.1	313.0	311.2	305.4
12.5°	314.4	313.7	311.9	308.3	301.8
15°	314.1	313.0	310.1	305.8	298.9
17.5°	313.4	312.3	307.9	302.2	294.6
20°	312.6	310.8	306.1	299.3	291.0
22.5°	311.2	308.3	302.5	294.9	285.9
25°	308.3	305.8	298.9	289.9	280.5
27.5°	305.8	302.5	295.3	284.8	274.3
30°	302.9	298.9	291.0	279.4	268.9
32.5°	299.6	294.9	285.9	274.0	262.4
35°	294.9	289.9	280.1	268.2	256.3
37.5°	290.6	285.2	274.3	262.0	250.1
40°	285.5	279.4	267.8	255.2	243.2
42.5°	280.5	273.6	262.0	249.8	237.1
45°	274.7	266.7	255.9	242.9	230.6
47.5°	267.8	259.9	248.3	236.0	223.4
50°	261.3	253.4	242.2	228.8	216.5
52.5°	253.7	245.4	234.9	221.2	208.9
55°	245.8	236.4	227.0	214.0	201.7
57.5°	235.7	227.7	217.6	205.7	194.5
60°	224.8	217.2	207.8	197.7	187.2
62.5°	210.7	206.4	198.1	190.1	180.0
65°	198.1	195.2	187.6	182.9	174.2
67.5°	182.5	183.2	177.8	176.0	168.4
70°	164.8	169.2	169.5	169.9	163.4
72.5°	147.1	153.2	161.2	163.4	157.9
75°	127.2	136.6	154.0	158.7	153.6
77.5°	106.3	121.1	147.8	154.3	149.6
80°	86.0	110.2	143.9	149.6	145.3
82.5°	65.1	104.8	140.2	144.2	140.2
85°	48.8	105.2	137.0	139.5	136.6
87.5°	31.4	109.9	133.7	134.5	131.6
90°	0.7	117.8	127.2	118.2	112.4
92.5°	55.7	140.2	133.0	126.5	122.9
95°	136.3	164.5	135.9	125.4	121.8
97.5°	192.3	189.4	138.1	122.9	117.8
100°	240.4	211.1	140.6	120.7	114.2
102.5°	281.6	231.0	141.7	117.8	110.6
105°	313.0	247.2	142.8	114.9	107.0
107.5°	336.1	259.1	142.8	112.0	102.6
110°	348.8	266.7	142.8	109.2	99.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	349.1	266.7	141.0	105.5	96.1
115°	342.3	261.3	139.5	103.4	92.2
117.5°	330.7	252.6	137.7	100.1	89.3
120°	311.9	241.8	136.3	98.3	86.7
122.5°	293.1	228.4	134.1	97.6	84.9
125°	270.0	214.3	131.2	97.2	84.2
127.5°	247.9	199.5	127.9	97.6	84.9
130°	225.5	184.7	123.2	98.7	86.0
132.5°	204.6	168.4	119.3	99.0	87.1
135°	184.0	155.1	116.7	98.3	88.2
137.5°	163.4	142.8	113.1	96.1	87.8
140°	147.5	132.6	111.0	95.4	85.7
142.5°	134.1	124.0	108.1	95.8	86.0
145°	122.9	117.5	105.9	95.8	86.7
147.5°	115.3	112.0	103.7	95.8	87.5
150°	108.8	107.3	101.6	95.4	87.5
152.5°	104.8	104.1	100.5	95.4	88.2
155°	101.2	101.2	99.0	95.1	88.2
157.5°	99.0	99.0	98.3	94.7	88.2
160°	97.6	97.9	97.2	94.7	88.9
162.5°	96.1	96.5	96.5	94.3	88.9
165°	95.8	95.8	95.8	94.0	88.9
167.5°	95.1	95.1	95.1	93.6	88.6
170°	94.3	94.3	94.3	93.3	88.2
172.5°	94.0	93.6	93.6	92.9	88.2
175°	93.6	93.6	93.6	92.9	88.2
177.5°	93.3	93.3	93.3	92.5	88.2
180°	91.8	91.8	91.8	91.8	91.8



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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	12.52	13.56	13.37	14.45	15.58	12.16	13.20	13.01	14.09	15.22
	3H	14.70	15.65	15.57	16.55	17.70	14.81	15.76	15.68	16.66	17.81
	4H	15.53	16.43	16.41	17.34	18.50	16.18	17.08	17.06	17.99	19.15
	6H	16.14	16.99	17.04	17.90	19.08	17.66	18.50	18.56	19.42	20.59
	8H	16.36	17.16	17.26	18.10	19.27	18.43	19.24	19.33	20.17	21.34
	12H	16.51	17.28	17.42	18.21	19.41	19.25	20.02	20.16	20.95	22.15
4H	2H	13.17	14.08	14.06	14.98	16.15	12.90	13.80	13.79	14.71	15.87
	3H	15.61	16.38	16.51	17.32	18.50	15.77	16.55	16.67	17.49	18.66
	4H	16.61	17.32	17.52	18.25	19.46	17.31	18.02	18.22	18.95	20.16
	6H	17.41	18.04	18.33	18.99	20.19	18.97	19.60	19.89	20.55	21.75
	8H	17.72	18.31	18.64	19.26	20.48	19.84	20.43	20.76	21.38	22.60
	12H	17.95	18.50	18.90	19.46	20.69	20.76	21.31	21.71	22.27	23.50
8H	4H	17.17	17.76	18.10	18.71	19.93	17.76	18.36	18.69	19.31	20.52
	6H	18.23	18.73	19.18	19.72	20.94	19.65	20.16	20.60	21.15	22.36
	8H	18.71	19.17	19.67	20.15	21.38	20.69	21.14	21.65	22.12	23.35
	12H	19.14	19.54	20.10	20.51	21.79	21.81	22.21	22.77	23.19	24.46
12H	4H	17.32	17.86	18.26	18.82	20.05	17.82	18.36	18.76	19.33	20.55
	6H	18.51	18.97	19.47	19.95	21.18	19.80	20.25	20.76	21.23	22.46
	8H	19.12	19.52	20.08	20.50	21.77	20.92	21.33	21.89	22.30	23.58