

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: P624678

Luminaire Tested: S930DIP-W240-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624678
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-W240-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

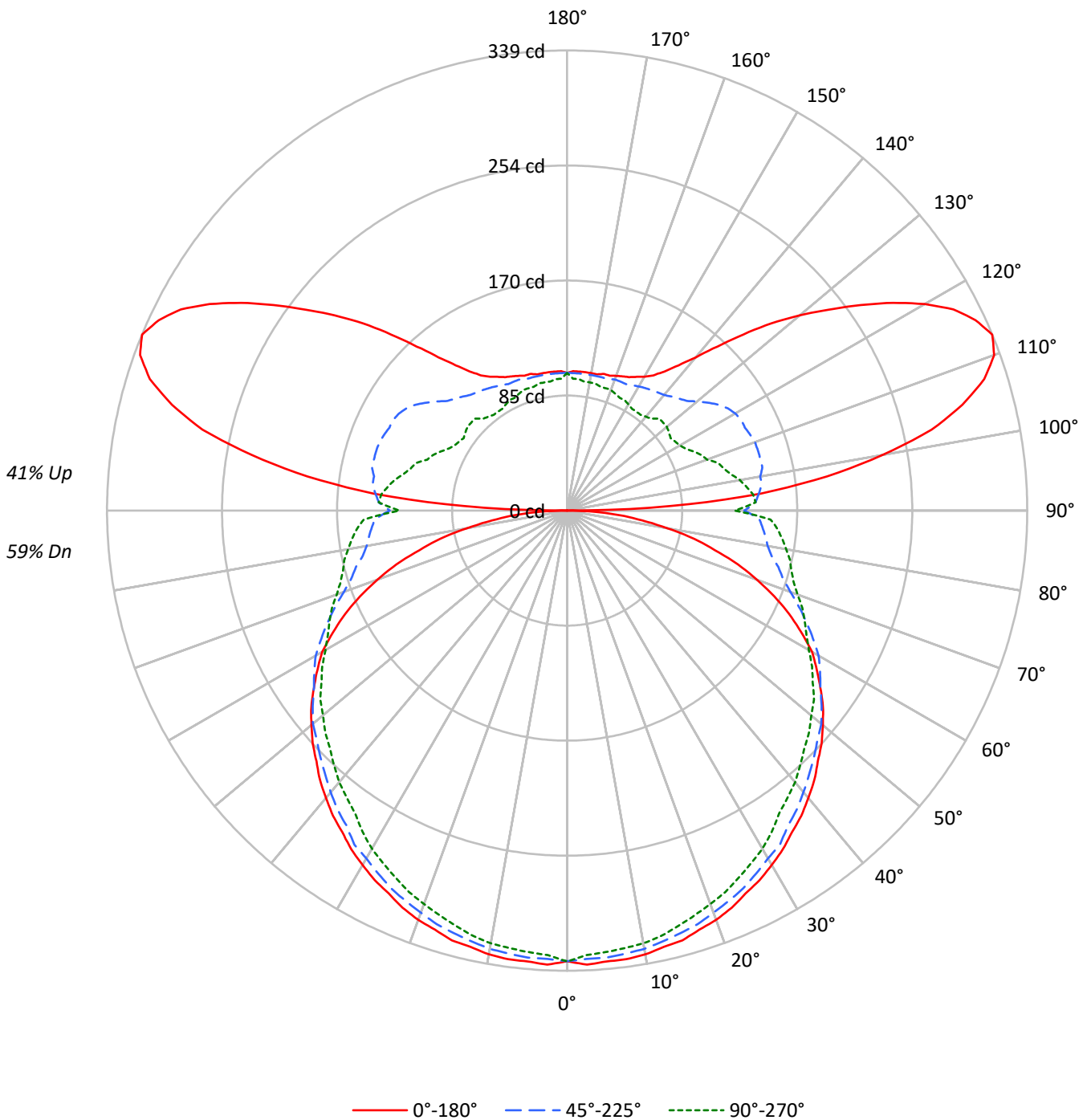
Lumens per Lamp: N/A
Luminaire Lumens: 2248.5 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 20
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°	1398	1398	1398
5°	1404	1373	1351
10°	1409	1352	1326
15°	1413	1331	1294
20°	1416	1314	1267
25°	1418	1301	1243
30°	1430	1285	1222
35°	1442	1272	1192
40°	1466	1269	1187
45°	1491	1268	1178
50°	1532	1284	1185
55°	1575	1290	1195
60°	1633	1325	1209
65°	1646	1341	1253
70°	1635	1373	1318
75°	1575	1477	1439
80°	1459	1671	1644
85°	1256	2071	1949

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 3488 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.5	1.4
10°-20°	91.3	4.1
20°-30°	141.6	6.3
30°-40°	177.6	7.9
40°-50°	198.2	8.8
50°-60°	203.3	9.0
60°-70°	189.3	8.4
70°-80°	161.4	7.2
80°-90°	135.4	6.0
90°-100°	154.6	6.9
100°-110°	189.4	8.4
110°-120°	179.3	8.0
120°-130°	141.5	6.3
130°-140°	99.7	4.4
140°-150°	68.4	3.0
150°-160°	47.5	2.1
160°-170°	28.7	1.3
170°-180°	9.7	0.4
0°-30°	264.5	11.8
0°-40°	442.1	19.7
0°-60°	843.6	37.5
0°-90°	1329.7	59.1
90°-120°	523.3	23.3
90°-150°	833.0	37.0
90°-180°	919.0	40.9
0°-180°	2248.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	332	332	332	332	332	
5°	333	333	331	331	326	32
15°	328	326	322	322	317	92
25°	311	310	307	306	299	144
35°	289	286	283	281	272	181
45°	261	258	257	256	247	202
55°	228	225	228	231	221	204
65°	181	185	194	197	193	178
75°	112	132	161	174	171	119
85°	39	100	144	156	156	39
90°	0	112	131	129	124	13
95°	143	156	142	140	138	134
105°	302	239	147	126	120	313
115°	332	251	144	111	103	326
125°	264	210	136	106	93	237
135°	183	154	117	101	96	144
145°	125	120	108	97	89	80
155°	108	107	103	99	92	51
165°	104	103	101	100	94	29
175°	103	103	101	101	97	10
180°	101	101	101	101	101	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	332.0	332.0	332.0	332.0	332.0
2.5°	334.8	333.4	330.6	332.0	327.8
5°	333.4	333.4	330.6	330.6	326.5
7.5°	333.4	332.0	329.2	329.2	325.1
10°	332.0	330.6	327.8	327.8	323.7
12.5°	329.2	329.2	325.1	325.1	320.9
15°	327.8	326.5	322.3	322.3	316.7
17.5°	323.7	322.3	319.5	318.1	312.6
20°	320.9	319.5	315.3	314.0	308.4
22.5°	316.7	315.3	311.2	309.8	304.2
25°	311.2	309.8	307.0	305.6	298.7
27.5°	307.0	305.6	301.5	300.1	293.1
30°	301.5	300.1	295.9	293.1	287.6
32.5°	295.9	293.1	291.7	287.6	280.6
35°	289.0	286.2	283.4	280.6	272.3
37.5°	283.4	280.6	277.8	275.1	266.7
40°	276.4	272.3	270.9	268.1	261.2
42.5°	269.5	265.3	263.9	262.6	254.2
45°	261.2	258.4	257.0	255.6	247.3
47.5°	254.2	250.1	250.1	248.7	241.7
50°	245.9	241.7	244.5	243.1	234.8
52.5°	237.6	234.8	236.2	237.6	229.2
55°	227.8	225.0	227.8	230.6	220.9
57.5°	218.1	216.7	220.9	222.3	213.9
60°	208.4	207.0	213.9	213.9	205.6
62.5°	194.5	195.9	204.2	205.6	198.7
65°	180.6	184.8	194.5	197.3	193.1
67.5°	165.3	173.6	184.8	191.7	187.5
70°	148.6	161.1	175.0	184.8	180.6
72.5°	132.0	147.3	166.7	179.2	175.0
75°	112.5	132.0	161.1	173.6	170.9
77.5°	95.9	118.1	154.2	169.5	168.1
80°	75.0	107.0	150.0	165.3	163.9
82.5°	55.6	100.0	147.3	161.1	159.8
85°	38.9	100.0	144.5	155.6	155.6
87.5°	20.8	105.6	141.7	151.4	150.0
90°	0.0	112.5	130.6	129.2	123.6
92.5°	76.4	133.4	138.9	140.3	138.9
95°	143.1	155.6	141.7	140.3	137.5
97.5°	193.1	177.8	144.5	136.1	133.4
100°	236.2	201.4	144.5	133.4	129.2
102.5°	275.1	220.9	147.3	129.2	123.6
105°	301.5	238.9	147.3	126.4	119.5
107.5°	322.3	251.4	147.3	123.6	116.7
110°	334.8	257.0	147.3	120.9	109.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	339.0	257.0	145.9	115.3	107.0
115°	332.0	251.4	144.5	111.1	102.8
117.5°	320.9	244.5	144.5	108.4	98.6
120°	304.2	234.8	143.1	107.0	95.9
122.5°	284.8	222.3	140.3	105.6	94.5
125°	263.9	209.8	136.1	105.6	93.1
127.5°	243.1	195.9	130.6	107.0	94.5
130°	223.7	182.0	125.0	107.0	95.9
132.5°	204.2	168.1	119.5	105.6	95.9
135°	183.4	154.2	116.7	101.4	95.9
137.5°	163.9	141.7	113.9	98.6	91.7
140°	147.3	133.4	111.1	97.2	90.3
142.5°	134.8	126.4	109.7	95.9	88.9
145°	125.0	119.5	108.4	97.2	88.9
147.5°	118.1	115.3	107.0	97.2	88.9
150°	113.9	112.5	105.6	97.2	90.3
152.5°	111.1	109.7	104.2	98.6	91.7
155°	108.4	107.0	102.8	98.6	91.7
157.5°	107.0	105.6	102.8	98.6	93.1
160°	105.6	104.2	102.8	98.6	94.5
162.5°	104.2	104.2	101.4	100.0	94.5
165°	104.2	102.8	101.4	100.0	94.5
167.5°	102.8	102.8	101.4	100.0	95.9
170°	102.8	102.8	101.4	100.0	95.9
172.5°	102.8	102.8	101.4	100.0	95.9
175°	102.8	102.8	101.4	101.4	97.2
177.5°	102.8	102.8	101.4	101.4	97.2
180°	101.4	101.4	101.4	101.4	101.4



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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	9.73	10.77	10.59	11.67	12.79	10.38	11.43	11.24	12.32	13.45
	3H	11.83	12.78	12.70	13.68	14.83	13.16	14.11	14.03	15.01	16.16
	4H	12.61	13.52	13.50	14.43	15.59	14.62	15.52	15.50	16.43	17.59
	6H	13.19	14.03	14.08	14.94	16.12	16.24	17.08	17.13	17.99	19.17
	8H	13.38	14.18	14.28	15.11	16.29	17.10	17.91	18.01	18.84	20.02
	12H	13.50	14.27	14.41	15.19	16.40	18.06	18.83	18.96	19.75	20.95
4H	2H	10.56	11.47	11.45	12.38	13.54	11.05	11.96	11.94	12.86	14.02
	3H	12.91	13.68	13.81	14.62	15.80	14.06	14.83	14.95	15.77	16.94
	4H	13.87	14.59	14.78	15.52	16.72	15.68	16.40	16.59	17.33	18.53
	6H	14.62	15.25	15.54	16.21	17.41	17.50	18.13	18.42	19.08	20.28
	8H	14.90	15.49	15.82	16.44	17.66	18.47	19.06	19.39	20.01	21.23
	12H	15.10	15.64	16.04	16.61	17.83	19.53	20.08	20.48	21.04	22.27
8H	4H	14.59	15.18	15.51	16.13	17.35	16.09	16.68	17.01	17.63	18.85
	6H	15.62	16.13	16.57	17.12	18.33	18.13	18.64	19.08	19.62	20.84
	8H	16.08	16.53	17.03	17.51	18.74	19.27	19.73	20.23	20.71	21.94
	12H	16.45	16.86	17.41	17.83	19.10	20.54	20.95	21.50	21.92	23.19
12H	4H	14.80	15.34	15.74	16.31	17.53	16.13	16.67	17.07	17.64	18.86
	6H	15.99	16.45	16.95	17.42	18.66	18.26	18.71	19.21	19.69	20.92
	8H	16.58	16.98	17.54	17.96	19.23	19.48	19.89	20.45	20.86	22.14