

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: P624710

Luminaire Tested: S930DIP-W440-X4-USTD-W

Issue Date: 11/3/2022

Test Information

Test Method: LM-79-2019
Report Number: P624710
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-W440-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

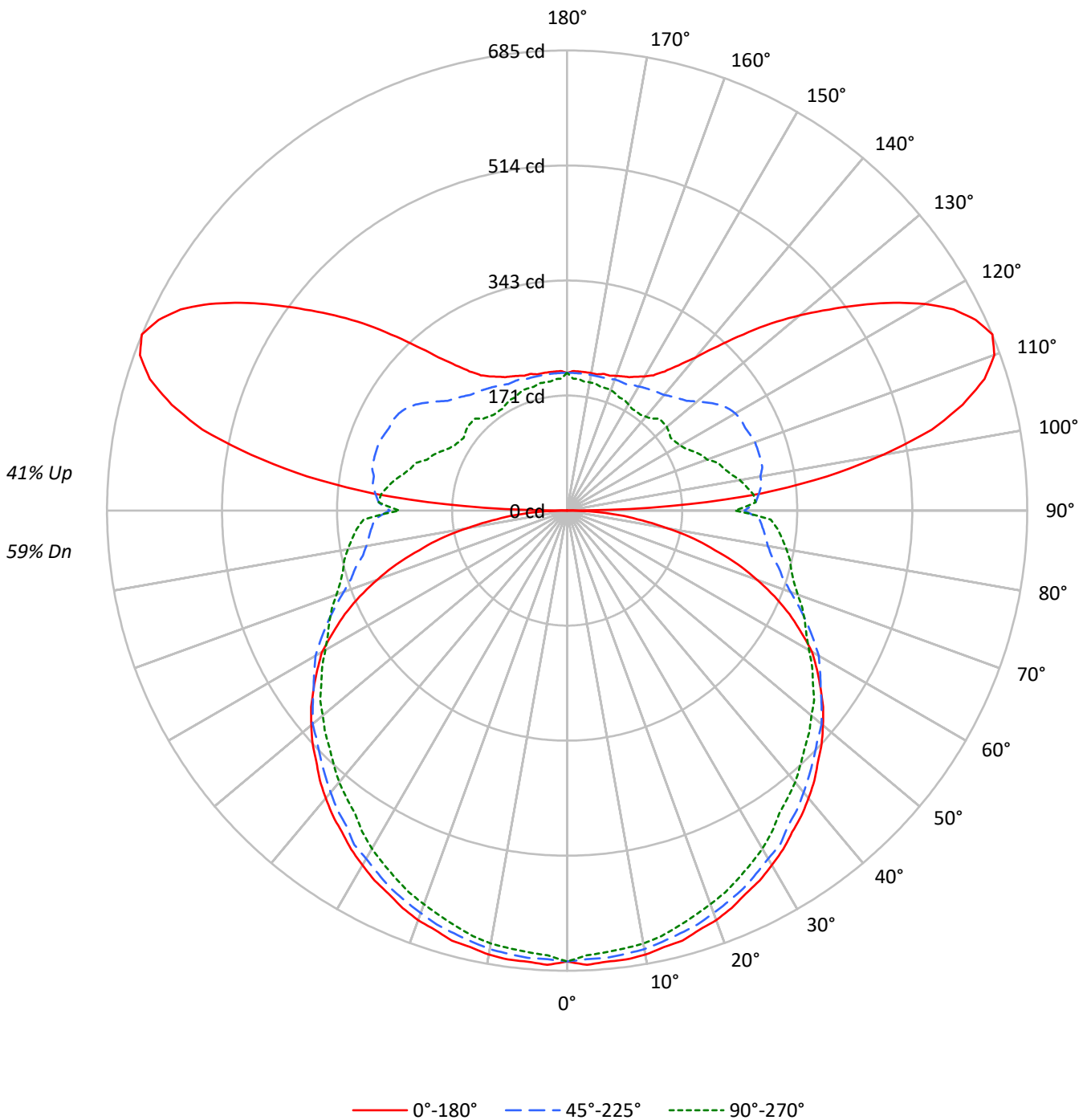
Lumens per Lamp: N/A
Luminaire Lumens: 4545.4 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.35 / 1.29 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 3.83' x H: 0.17')
CIE Type: General Diffuse

Input Watts (W): 41.7
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65
1	97	92	87	82	90	85	81	77	73	70	67	63	60	58	53	51	49
2	87	78	71	65	81	73	67	61	63	58	53	54	50	46	45	42	39
3	79	68	60	53	73	63	56	50	55	49	44	46	42	38	39	35	32
4	72	60	51	44	66	56	48	42	48	42	37	41	36	32	34	30	27
5	66	53	44	37	61	49	41	35	43	36	31	36	31	27	31	27	23
6	61	47	38	32	56	44	36	30	38	32	27	33	28	23	28	23	20
7	56	43	34	28	52	40	32	26	35	28	23	30	24	21	25	21	18
8	52	39	30	24	48	36	29	23	31	25	21	27	22	18	23	19	16
9	48	35	27	22	45	33	26	21	29	23	18	25	20	16	21	17	14
10	45	32	25	19	42	30	23	18	26	21	16	23	18	15	20	16	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2827	2827	2827
5°	2839	2776	2731
10°	2849	2735	2681
15°	2857	2691	2617
20°	2862	2657	2562
25°	2866	2630	2513
30°	2891	2598	2471
35°	2915	2572	2408
40°	2965	2564	2400
45°	3014	2563	2382
50°	3097	2597	2396
55°	3185	2609	2416
60°	3300	2680	2443
65°	3328	2712	2533
70°	3306	2776	2665
75°	3185	2988	2908
80°	2952	3379	3325
85°	2537	4186	3940

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 90°
 Luminance: 7054 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.7	1.4
10°-20°	184.6	4.1
20°-30°	286.3	6.3
30°-40°	359.1	7.9
40°-50°	400.6	8.8
50°-60°	411.1	9.0
60°-70°	382.8	8.4
70°-80°	326.2	7.2
80°-90°	273.7	6.0
90°-100°	312.5	6.9
100°-110°	382.9	8.4
110°-120°	362.5	8.0
120°-130°	286.1	6.3
130°-140°	201.6	4.4
140°-150°	138.2	3.0
150°-160°	96.1	2.1
160°-170°	57.9	1.3
170°-180°	19.5	0.4
0°-30°	534.6	11.8
0°-40°	893.7	19.7
0°-60°	1705.4	37.5
0°-90°	2688.0	59.1
90°-120°	1058.0	23.3
90°-150°	1683.8	37.0
90°-180°	1857.0	40.9
0°-180°	4545.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	671	671	671	671	671	
5°	674	674	668	668	660	64
15°	663	660	652	652	640	187
25°	629	626	621	618	604	291
35°	584	578	573	567	550	367
45°	528	522	520	517	500	409
55°	461	455	461	466	446	412
65°	365	374	393	399	390	360
75°	228	267	326	351	345	241
85°	79	202	292	314	314	78
90°	0	228	264	261	250	27
95°	289	314	286	284	278	271
105°	609	483	298	256	242	632
115°	671	508	292	225	208	658
125°	534	424	275	213	188	480
135°	371	312	236	205	194	290
145°	253	242	219	197	180	162
155°	219	216	208	199	185	102
165°	211	208	205	202	191	60
175°	208	208	205	205	197	20
180°	205	205	205	205	205	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	671.2	671.2	671.2	671.2	671.2
2.5°	676.8	674.0	668.4	671.2	662.8
5°	674.0	674.0	668.4	668.4	660.0
7.5°	674.0	671.2	665.6	665.6	657.2
10°	671.2	668.4	662.8	662.8	654.4
12.5°	665.6	665.6	657.2	657.2	648.7
15°	662.8	660.0	651.5	651.5	640.3
17.5°	654.4	651.5	645.9	643.1	631.9
20°	648.7	645.9	637.5	634.7	623.5
22.5°	640.3	637.5	629.1	626.3	615.0
25°	629.1	626.3	620.7	617.8	603.8
27.5°	620.7	617.8	609.4	606.6	592.6
30°	609.4	606.6	598.2	592.6	581.3
32.5°	598.2	592.6	589.8	581.3	567.3
35°	584.1	578.5	572.9	567.3	550.4
37.5°	572.9	567.3	561.7	556.1	539.2
40°	558.9	550.4	547.6	542.0	528.0
42.5°	544.8	536.4	533.6	530.8	513.9
45°	528.0	522.4	519.5	516.7	499.9
47.5°	513.9	505.5	505.5	502.7	488.7
50°	497.1	488.7	494.3	491.5	474.6
52.5°	480.2	474.6	477.4	480.2	463.4
55°	460.6	455.0	460.6	466.2	446.5
57.5°	440.9	438.1	446.5	449.3	432.5
60°	421.3	418.4	432.5	432.5	415.6
62.5°	393.2	396.0	412.8	415.6	401.6
65°	365.1	373.5	393.2	398.8	390.4
67.5°	334.2	351.0	373.5	387.6	379.1
70°	300.5	325.8	353.9	373.5	365.1
72.5°	266.8	297.7	337.0	362.3	353.9
75°	227.5	266.8	325.8	351.0	345.4
77.5°	193.8	238.7	311.7	342.6	339.8
80°	151.7	216.2	303.3	334.2	331.4
82.5°	112.3	202.2	297.7	325.8	323.0
85°	78.6	202.2	292.1	314.5	314.5
87.5°	42.1	213.4	286.5	306.1	303.3
90°	0.0	227.5	264.0	261.2	249.9
92.5°	154.5	269.6	280.8	283.6	280.8
95°	289.3	314.5	286.5	283.6	278.0
97.5°	390.4	359.5	292.1	275.2	269.6
100°	477.4	407.2	292.1	269.6	261.2
102.5°	556.1	446.5	297.7	261.2	249.9
105°	609.4	483.0	297.7	255.6	241.5
107.5°	651.5	508.3	297.7	249.9	235.9
110°	676.8	519.5	297.7	244.3	221.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	685.2	519.5	294.9	233.1	216.2
115°	671.2	508.3	292.1	224.7	207.8
117.5°	648.7	494.3	292.1	219.1	199.4
120°	615.0	474.6	289.3	216.2	193.8
122.5°	575.7	449.3	283.6	213.4	191.0
125°	533.6	424.1	275.2	213.4	188.2
127.5°	491.5	396.0	264.0	216.2	191.0
130°	452.1	367.9	252.8	216.2	193.8
132.5°	412.8	339.8	241.5	213.4	193.8
135°	370.7	311.7	235.9	205.0	193.8
137.5°	331.4	286.5	230.3	199.4	185.4
140°	297.7	269.6	224.7	196.6	182.5
142.5°	272.4	255.6	221.9	193.8	179.7
145°	252.8	241.5	219.1	196.6	179.7
147.5°	238.7	233.1	216.2	196.6	179.7
150°	230.3	227.5	213.4	196.6	182.5
152.5°	224.7	221.9	210.6	199.4	185.4
155°	219.1	216.2	207.8	199.4	185.4
157.5°	216.2	213.4	207.8	199.4	188.2
160°	213.4	210.6	207.8	199.4	191.0
162.5°	210.6	210.6	205.0	202.2	191.0
165°	210.6	207.8	205.0	202.2	191.0
167.5°	207.8	207.8	205.0	202.2	193.8
170°	207.8	207.8	205.0	202.2	193.8
172.5°	207.8	207.8	205.0	202.2	193.8
175°	207.8	207.8	205.0	205.0	196.6
177.5°	207.8	207.8	205.0	205.0	196.6
180°	205.0	205.0	205.0	205.0	205.0



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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	12.18	13.22	13.04	14.11	15.24	12.83	13.87	13.69	14.76	15.89
	3H	14.28	15.23	15.14	16.13	17.28	15.60	16.55	16.47	17.45	18.61
	4H	15.06	15.97	15.94	16.87	18.03	17.06	17.97	17.94	18.87	20.03
	6H	15.64	16.48	16.53	17.39	18.57	18.68	19.53	19.58	20.44	21.61
	8H	15.82	16.63	16.73	17.56	18.74	19.55	20.36	20.45	21.29	22.46
	12H	15.94	16.71	16.85	17.64	18.84	20.50	21.27	21.41	22.20	23.40
4H	2H	13.01	13.92	13.90	14.82	15.98	13.50	14.40	14.38	15.31	16.47
	3H	15.35	16.13	16.25	17.07	18.24	16.50	17.28	17.40	18.21	19.39
	4H	16.31	17.03	17.22	17.96	19.16	18.13	18.85	19.04	19.78	20.98
	6H	17.07	17.70	17.99	18.66	19.85	19.94	20.57	20.86	21.53	22.73
	8H	17.35	17.94	18.27	18.89	20.11	20.92	21.51	21.84	22.46	23.68
	12H	17.54	18.09	18.49	19.05	20.27	21.98	22.52	22.92	23.49	24.71
8H	4H	17.04	17.63	17.96	18.58	19.80	18.53	19.13	19.46	20.08	21.29
	6H	18.07	18.57	19.02	19.56	20.78	20.57	21.08	21.52	22.07	23.28
	8H	18.52	18.98	19.48	19.96	21.19	21.72	22.17	22.68	23.15	24.38
	12H	18.90	19.30	19.86	20.28	21.55	22.99	23.39	23.95	24.36	25.64
12H	4H	17.24	17.79	18.19	18.75	19.98	18.57	19.12	19.52	20.08	21.31
	6H	18.44	18.89	19.40	19.87	21.10	20.70	21.16	21.66	22.13	23.36
	8H	19.02	19.43	19.99	20.40	21.68	21.93	22.33	22.89	23.31	24.58