

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P930736

Luminaire Tested: DFN2DS-PN4F0-090DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930736
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-090DS935-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

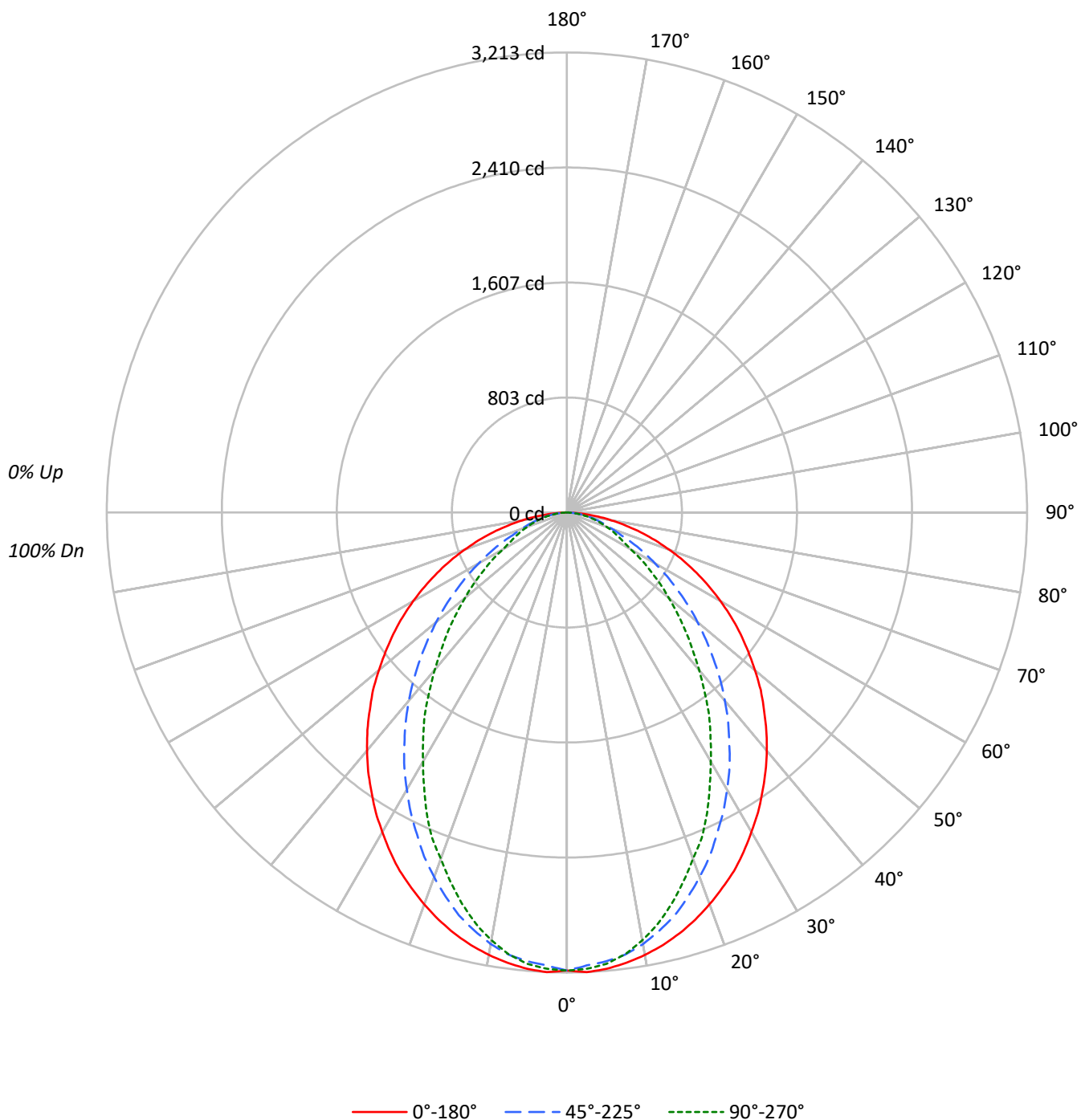
Lumens per Lamp: N/A
Luminaire Lumens: 6579.0 lumens
Efficiency: N/A
Efficacy: 70.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 93.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2335	2335	2335
5°	2344	2306	2319
10°	2326	2268	2249
15°	2299	2201	2138
20°	2262	2105	1999
25°	2224	1996	1865
30°	2172	1884	1693
35°	2121	1762	1543
40°	2069	1636	1368
45°	2008	1494	1210
50°	1946	1351	1055
55°	1882	1197	907
60°	1809	1035	752
65°	1725	870	685
70°	1625	716	630
75°	1502	653	588
80°	1326	583	536
85°	1042	461	461

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2008 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.8	4.6
10°-20°	823.0	12.5
20°-30°	1155.5	17.6
30°-40°	1259.6	19.1
40°-50°	1157.7	17.6
50°-60°	909.2	13.8
60°-70°	591.8	9.0
70°-80°	304.6	4.6
80°-90°	77.8	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2278.3	34.6
0°-40°	3537.9	53.8
0°-60°	5604.8	85.2
0°-90°	6579.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6579.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3199	3199	3199	3199	3199	
5°	3199	3184	3147	3173	3164	303
15°	3043	3011	2912	2857	2828	857
25°	2762	2669	2478	2360	2316	1270
35°	2380	2232	1977	1795	1731	1489
45°	1946	1751	1448	1242	1172	1502
55°	1479	1253	941	767	712	1322
65°	999	764	504	405	396	990
75°	533	330	232	211	209	563
85°	124	64	55	55	55	149
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3198.9	3198.9	3198.9	3198.9	3198.9
2.5°	3213.4	3198.9	3167.0	3196.2	3190.3
5°	3198.9	3184.5	3146.7	3172.8	3164.2
7.5°	3172.8	3155.6	3115.1	3126.4	3112.0
10°	3138.1	3117.8	3060.1	3051.2	3034.0
12.5°	3094.8	3068.7	2990.4	2973.2	2941.2
15°	3042.6	3010.7	2912.4	2857.4	2828.5
17.5°	2981.8	2935.4	2813.7	2750.2	2703.8
20°	2912.4	2854.3	2709.6	2637.4	2573.6
22.5°	2837.1	2770.5	2602.4	2504.1	2460.9
25°	2761.9	2669.1	2478.1	2359.5	2315.9
27.5°	2672.2	2573.6	2362.2	2226.2	2159.5
30°	2576.6	2466.4	2234.8	2087.4	2009.0
32.5°	2483.9	2350.6	2113.4	1939.6	1867.1
35°	2379.8	2232.0	1977.4	1795.0	1731.1
37.5°	2278.4	2119.0	1849.9	1650.0	1577.8
40°	2171.2	1997.7	1716.6	1511.2	1435.9
42.5°	2061.2	1876.1	1583.6	1369.3	1297.1
45°	1945.5	1751.4	1447.6	1241.8	1172.4
47.5°	1835.5	1630.0	1317.3	1111.6	1048.0
50°	1713.9	1508.4	1189.9	989.9	929.4
52.5°	1595.0	1377.9	1068.3	877.2	822.2
55°	1479.2	1253.4	940.8	767.3	712.3
57.5°	1360.7	1129.1	828.1	665.9	619.5
60°	1239.0	1007.4	709.2	561.8	515.4
62.5°	1120.5	888.9	607.8	469.0	446.0
65°	998.8	764.2	503.7	405.4	396.5
67.5°	883.0	648.4	405.4	356.0	347.4
70°	761.4	535.7	335.7	306.8	295.2
72.5°	645.6	431.2	280.7	257.7	251.9
75°	532.6	329.9	231.6	211.3	208.6
77.5°	419.9	234.4	182.4	170.8	164.9
80°	315.4	168.0	138.8	127.5	127.5
82.5°	219.9	113.0	95.5	89.7	89.7
85°	124.4	63.6	55.0	55.0	55.0
87.5°	46.4	23.0	23.0	20.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

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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	14.18	15.70	14.55	16.02	16.33	10.14	11.66	10.51	11.98	12.29
	3H	15.95	17.31	16.32	17.64	18.00	11.41	12.77	11.78	13.10	13.46
	4H	16.61	17.89	17.01	18.24	18.62	11.91	13.19	12.31	13.54	13.92
	6H	17.10	18.28	17.51	18.65	19.04	12.29	13.47	12.70	13.84	14.23
	8H	17.27	18.39	17.69	18.78	19.18	12.41	13.54	12.84	13.93	14.33
	12H	17.37	18.45	17.80	18.83	19.26	12.50	13.57	12.93	13.96	14.38
4H	2H	14.29	15.57	14.68	15.91	16.29	10.84	12.12	11.24	12.47	12.84
	3H	16.22	17.28	16.63	17.68	18.08	12.28	13.34	12.69	13.74	14.14
	4H	16.97	17.92	17.40	18.34	18.78	12.88	13.84	13.31	14.25	14.69
	6H	17.56	18.39	18.02	18.83	19.29	13.37	14.20	13.83	14.64	15.10
	8H	17.77	18.55	18.24	19.00	19.46	13.53	14.31	13.99	14.75	15.22
	12H	17.93	18.62	18.41	19.10	19.57	13.65	14.34	14.13	14.82	15.29
8H	4H	16.99	17.77	17.46	18.21	18.68	13.23	14.01	13.70	14.46	14.92
	6H	17.63	18.27	18.13	18.76	19.24	13.82	14.46	14.32	14.95	15.43
	8H	17.88	18.46	18.39	18.97	19.45	14.04	14.62	14.56	15.13	15.62
	12H	18.08	18.59	18.59	19.09	19.65	14.22	14.73	14.73	15.22	15.79
12H	4H	16.98	17.67	17.46	18.15	18.62	13.28	13.97	13.76	14.45	14.92
	6H	17.61	18.19	18.12	18.70	19.19	13.88	14.46	14.40	14.97	15.46
	8H	17.89	18.40	18.40	18.90	19.46	14.16	14.67	14.67	15.16	15.72