

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: P930016

Luminaire Tested: DFN2DS-4P4F0-070DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930016
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-4P4F0-070DS935-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

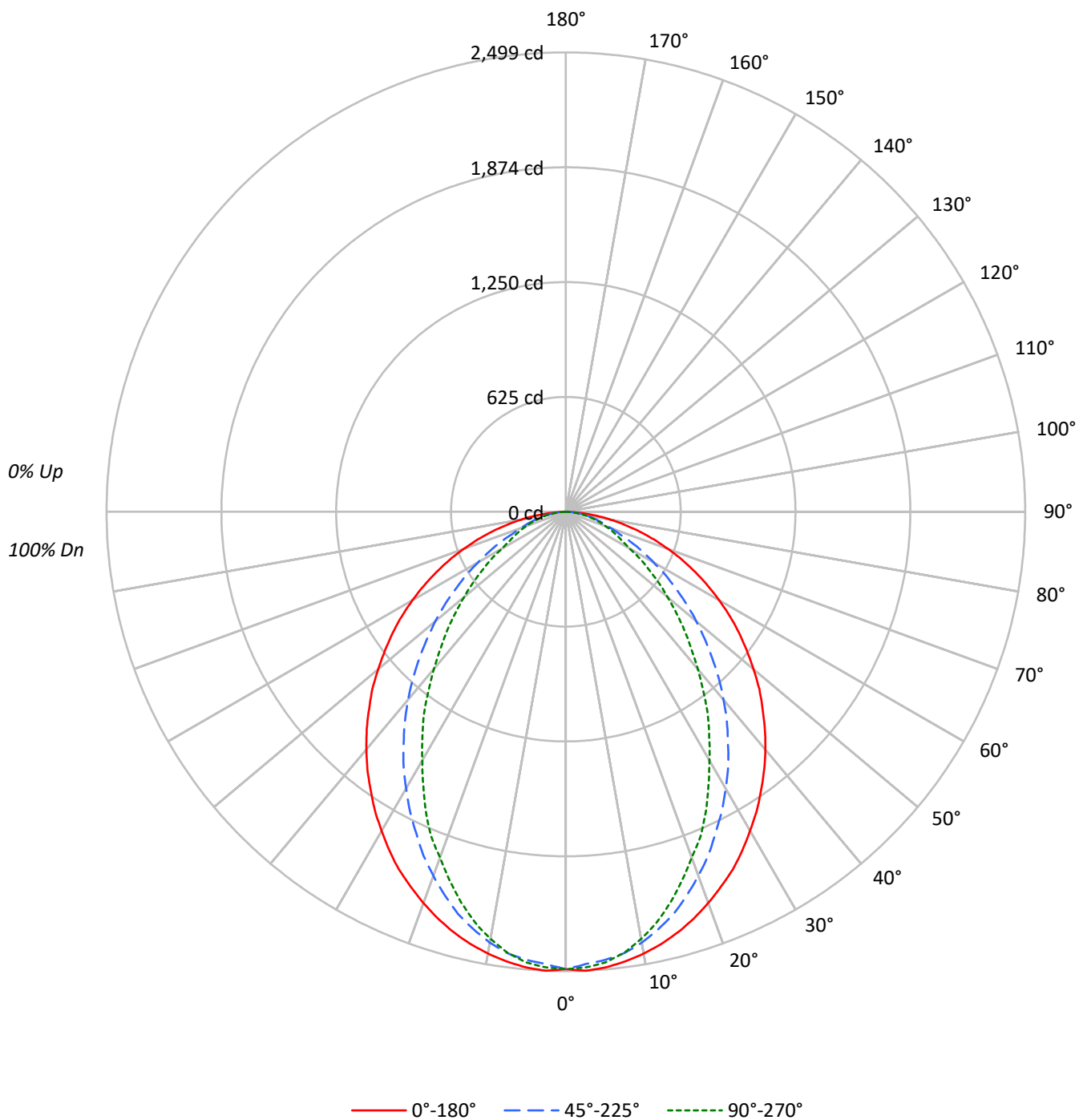
Lumens per Lamp: N/A
Luminaire Lumens: 5117.0 lumens
Efficiency: N/A
Efficacy: 68.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 74.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930016

CATALOG NUMBER: DFN2DS-4P4F0-070DS935-RLL

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°	1614	1614	1614
5°	1620	1594	1603
10°	1608	1568	1555
15°	1589	1521	1478
20°	1564	1455	1382
25°	1538	1380	1289
30°	1501	1302	1171
35°	1466	1218	1066
40°	1430	1131	946
45°	1388	1033	837
50°	1345	934	730
55°	1301	828	627
60°	1250	716	520
65°	1192	601	473
70°	1123	495	435
75°	1038	451	407
80°	917	403	371
85°	721	318	318

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1388 cd/sqm

TEST NUMBER: P930016

CATALOG NUMBER: DFN2DS-4P4F0-070DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.2	4.6
10°-20°	640.1	12.5
20°-30°	898.7	17.6
30°-40°	979.7	19.1
40°-50°	900.4	17.6
50°-60°	707.1	13.8
60°-70°	460.3	9.0
70°-80°	236.9	4.6
80°-90°	60.5	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°	1772.1	34.6
0°-40°	2751.7	53.8
0°-60°	4359.3	85.2
0°-90°	5117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5117.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2488	2488	2488	2488	2488	
5°	2488	2477	2448	2468	2461	236
15°	2366	2342	2265	2222	2200	667
25°	2148	2076	1927	1835	1801	988
35°	1851	1736	1538	1396	1346	1158
45°	1513	1362	1126	966	912	1169
55°	1150	975	732	597	554	1028
65°	777	594	392	315	308	770
75°	414	256	180	164	162	438
85°	97	49	43	43	43	116
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2488.1	2488.1	2488.1	2488.1	2488.1
2.5°	2499.2	2488.1	2463.2	2485.9	2481.4
5°	2488.1	2476.8	2447.5	2467.8	2461.1
7.5°	2467.8	2454.4	2422.9	2431.6	2420.5
10°	2440.8	2425.0	2380.0	2373.2	2359.8
12.5°	2407.1	2386.8	2325.9	2312.5	2287.6
15°	2366.5	2341.6	2265.2	2222.4	2200.0
17.5°	2319.2	2283.1	2188.5	2139.0	2103.0
20°	2265.2	2220.0	2107.5	2051.4	2001.6
22.5°	2206.7	2154.8	2024.1	1947.6	1914.0
25°	2148.1	2076.0	1927.3	1835.2	1801.3
27.5°	2078.4	2001.6	1837.3	1731.5	1679.7
30°	2004.1	1918.3	1738.1	1623.5	1562.6
32.5°	1931.9	1828.3	1643.8	1508.6	1452.2
35°	1850.9	1736.0	1538.0	1396.1	1346.4
37.5°	1772.1	1648.1	1438.9	1283.3	1227.2
40°	1688.7	1553.8	1335.2	1175.4	1116.8
42.5°	1603.2	1459.2	1231.7	1064.9	1008.9
45°	1513.2	1362.2	1125.9	965.9	911.9
47.5°	1427.6	1267.8	1024.6	864.6	815.1
50°	1333.0	1173.2	925.4	770.0	722.9
52.5°	1240.6	1071.6	830.8	682.2	639.5
55°	1150.5	974.9	731.7	596.8	554.0
57.5°	1058.3	878.1	644.1	517.9	481.9
60°	963.7	783.5	551.6	437.0	400.8
62.5°	871.4	691.4	472.7	364.8	346.8
65°	776.8	594.3	391.8	315.4	308.4
67.5°	686.8	504.3	315.4	276.8	270.2
70°	592.2	416.6	261.1	238.6	229.5
72.5°	502.2	335.4	218.4	200.5	195.9
75°	414.3	256.5	180.1	164.3	162.2
77.5°	326.5	182.2	141.9	132.8	128.3
80°	245.4	130.6	108.0	99.2	99.2
82.5°	171.1	87.9	74.3	69.7	69.7
85°	96.8	49.4	42.7	42.7	42.7
87.5°	36.0	17.9	17.9	15.7	15.7
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	12.90	14.42	13.26	14.73	15.05	8.86	10.38	9.22	10.69	11.01
	3H	14.66	16.03	15.04	16.36	16.72	10.12	11.49	10.50	11.82	12.18
	4H	15.33	16.61	15.73	16.96	17.34	10.63	11.91	11.02	12.25	12.63
	6H	15.82	17.00	16.23	17.37	17.76	11.01	12.19	11.42	12.56	12.95
	8H	15.98	17.11	16.41	17.50	17.90	11.13	12.26	11.56	12.65	13.05
	12H	16.09	17.17	16.52	17.55	17.98	11.21	12.29	11.64	12.67	13.10
4H	2H	13.00	14.28	13.40	14.63	15.01	9.55	10.83	9.95	11.18	11.56
	3H	14.94	16.00	15.35	16.40	16.80	11.00	12.06	11.41	12.46	12.86
	4H	15.68	16.64	16.12	17.06	17.50	11.60	12.55	12.03	12.97	13.41
	6H	16.28	17.11	16.73	17.55	18.01	12.09	12.92	12.54	13.36	13.82
	8H	16.49	17.27	16.95	17.71	18.18	12.25	13.02	12.71	13.47	13.94
	12H	16.64	17.34	17.13	17.82	18.29	12.36	13.06	12.85	13.54	14.01
8H	4H	15.71	16.49	16.17	16.93	17.40	11.95	12.73	12.41	13.17	13.64
	6H	16.35	16.99	16.84	17.48	17.96	12.54	13.18	13.03	13.67	14.15
	8H	16.60	17.17	17.11	17.68	18.17	12.76	13.33	13.27	13.84	14.33
	12H	16.80	17.31	17.31	17.80	18.37	12.94	13.45	13.45	13.94	14.50
12H	4H	15.69	16.39	16.18	16.87	17.34	11.99	12.69	12.48	13.17	13.64
	6H	16.33	16.90	16.84	17.41	17.90	12.60	13.18	13.11	13.69	14.18
	8H	16.61	17.12	17.12	17.61	18.18	12.87	13.38	13.38	13.88	14.44