

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: P931510

Luminaire Tested: DFN2DS-TR4F0-070DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931510
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-TR4F0-070DS935-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

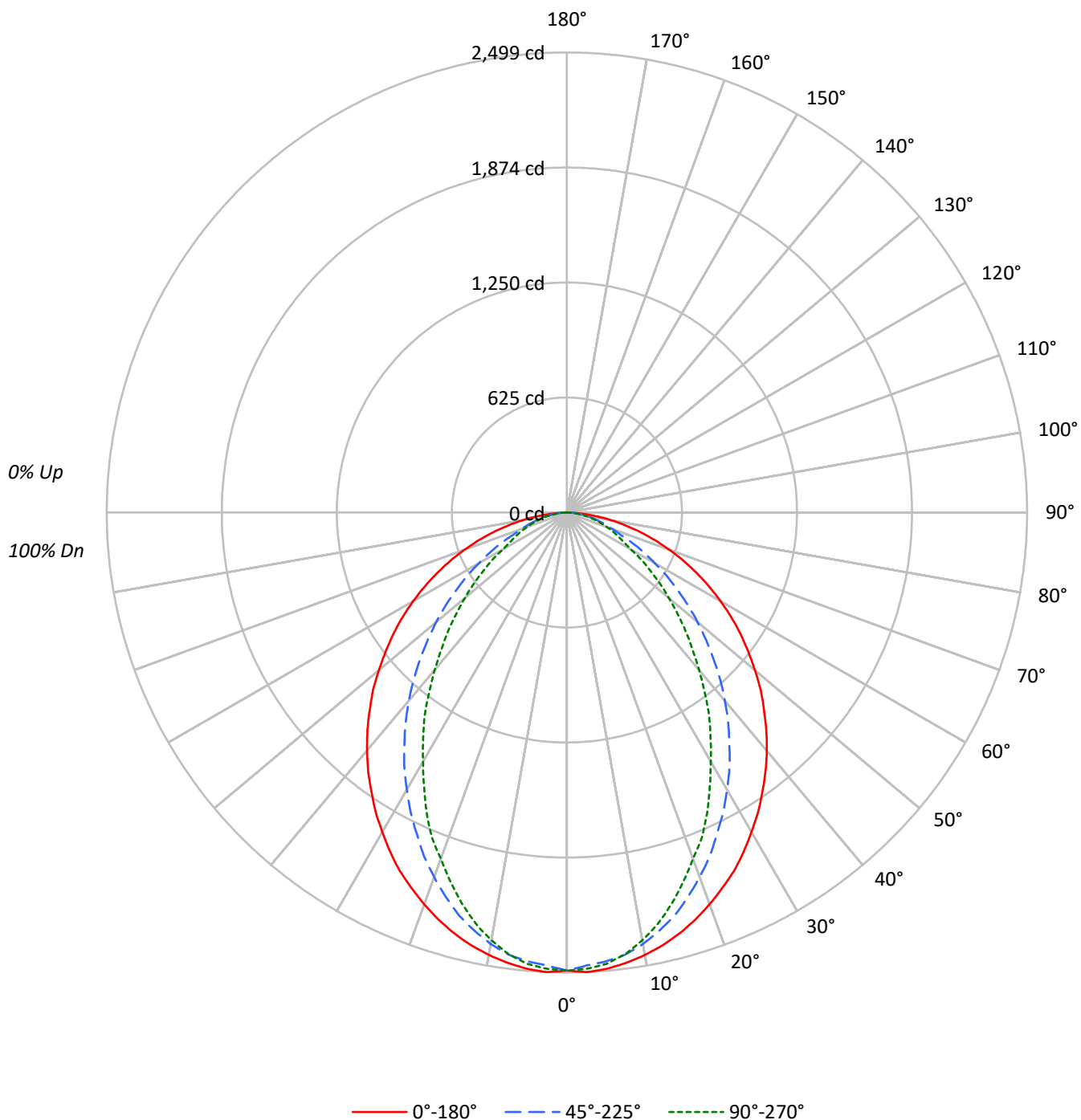
Lumens per Lamp: N/A
Luminaire Lumens: 5117.0 lumens
Efficiency: N/A
Efficacy: 71.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 71.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931510

CATALOG NUMBER: DFN2DS-TR4F0-070DS935-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931510

CATALOG NUMBER: DFN2DS-TR4F0-070DS935-RLL

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°	1977	1977	1977
5°	1984	1952	1963
10°	1969	1920	1904
15°	1946	1863	1809
20°	1915	1782	1692
25°	1883	1689	1579
30°	1838	1594	1433
35°	1795	1492	1306
40°	1751	1385	1158
45°	1700	1265	1025
50°	1647	1144	893
55°	1594	1013	767
60°	1531	876	637
65°	1460	737	580
70°	1376	606	533
75°	1272	553	498
80°	1123	494	454
85°	882	389	389

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1700 cd/sqm

TEST NUMBER: P931510

CATALOG NUMBER: DFN2DS-TR4F0-070DS935-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	

TEST NUMBER: P931510

CATALOG NUMBER: DFN2DS-TR4F0-070DS935-RLL

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

TEST NUMBER: P931510

CATALOG NUMBER: DFN2DS-TR4F0-070DS935-RLL

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	13.60	15.12	13.97	15.44	15.75	9.56	11.08	9.93	11.40	11.71
	3H	15.37	16.73	15.74	17.06	17.42	10.83	12.19	11.21	12.52	12.88
	4H	16.03	17.31	16.43	17.66	18.04	11.33	12.61	11.73	12.96	13.34
	6H	16.52	17.71	16.93	18.07	18.46	11.71	12.89	12.12	13.26	13.65
	8H	16.69	17.81	17.11	18.20	18.60	11.83	12.96	12.26	13.35	13.75
	12H	16.79	17.87	17.22	18.25	18.68	11.92	12.99	12.35	13.38	13.81
4H	2H	13.71	14.99	14.11	15.34	15.71	10.26	11.54	10.66	11.89	12.27
	3H	15.64	16.70	16.05	17.10	17.50	11.70	12.76	12.11	13.16	13.56
	4H	16.39	17.35	16.82	17.76	18.20	12.30	13.26	12.73	13.67	14.11
	6H	16.98	17.81	17.44	18.25	18.71	12.79	13.62	13.25	14.06	14.52
	8H	17.19	17.97	17.66	18.42	18.88	12.95	13.73	13.41	14.17	14.64
	12H	17.35	18.04	17.83	18.52	18.99	13.07	13.76	13.55	14.24	14.71
8H	4H	16.41	17.19	16.88	17.63	18.10	12.65	13.43	13.12	13.88	14.34
	6H	17.05	17.69	17.55	18.18	18.66	13.24	13.88	13.74	14.37	14.85
	8H	17.30	17.88	17.81	18.39	18.87	13.46	14.04	13.98	14.55	15.04
	12H	17.50	18.01	18.01	18.51	19.07	13.64	14.15	14.15	14.64	15.21
12H	4H	16.40	17.09	16.88	17.57	18.04	12.70	13.39	13.18	13.87	14.34
	6H	17.03	17.61	17.54	18.12	18.61	13.30	13.88	13.82	14.39	14.88
	8H	17.32	17.83	17.83	18.32	18.88	13.58	14.09	14.09	14.58	15.14