

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: P931562

Luminaire Tested: DFN2DS-TR4F0-100DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931562
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-TR4F0-100DS930-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

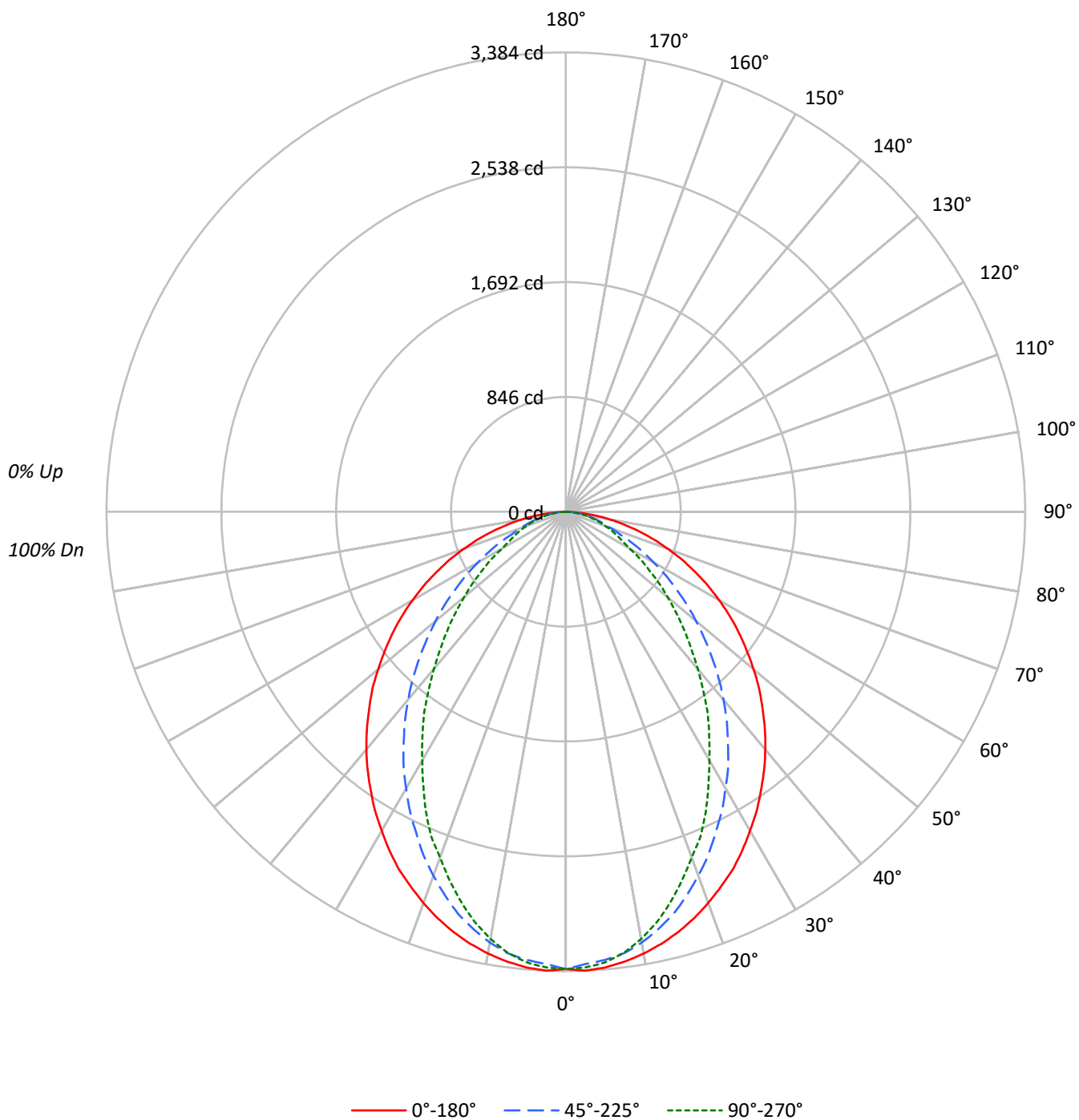
Lumens per Lamp: N/A
Luminaire Lumens: 6927.5 lumens
Efficiency: N/A
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 107.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931562

CATALOG NUMBER: DFN2DS-TR4F0-100DS930-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931562

CATALOG NUMBER: DFN2DS-TR4F0-100DS930-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°	2676	2676	2676
5°	2686	2642	2657
10°	2666	2599	2577
15°	2635	2522	2450
20°	2593	2412	2291
25°	2549	2287	2138
30°	2489	2159	1941
35°	2430	2019	1768
40°	2371	1875	1568
45°	2301	1713	1387
50°	2230	1548	1210
55°	2157	1372	1039
60°	2073	1187	862
65°	1977	997	785
70°	1862	821	722
75°	1721	748	674
80°	1519	669	614
85°	1194	528	528

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2301 cd/sqm

TEST NUMBER: P931562

CATALOG NUMBER: DFN2DS-TR4F0-100DS930-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.7	4.6
10°-20°	866.6	12.5
20°-30°	1216.7	17.6
30°-40°	1326.3	19.1
40°-50°	1219.0	17.6
50°-60°	957.3	13.8
60°-70°	623.1	9.0
70°-80°	320.8	4.6
80°-90°	81.9	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°	2399.0	34.6
0°-40°	3725.3	53.8
0°-60°	5901.7	85.2
0°-90°	6927.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6927.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3368	3368	3368	3368	3368	
5°	3368	3353	3313	3341	3332	319
15°	3204	3170	3067	3009	2978	903
25°	2908	2810	2609	2484	2439	1337
35°	2506	2350	2082	1890	1823	1568
45°	2048	1844	1524	1308	1234	1582
55°	1558	1320	991	808	750	1392
65°	1052	805	530	427	418	1043
75°	561	347	244	222	220	593
85°	131	67	58	58	58	157
90°	0	0	0	0	0	

TEST NUMBER: P931562

CATALOG NUMBER: DFN2DS-TR4F0-100DS930-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3368.4	3368.4	3368.4	3368.4	3368.4
2.5°	3383.6	3368.4	3334.7	3365.5	3359.3
5°	3368.4	3353.2	3313.4	3340.9	3331.8
7.5°	3340.9	3322.8	3280.0	3292.0	3276.9
10°	3304.3	3283.0	3222.2	3212.8	3194.7
12.5°	3258.8	3231.2	3148.8	3130.7	3097.0
15°	3203.8	3170.1	3066.6	3008.7	2978.3
17.5°	3139.7	3090.9	2962.9	2895.9	2847.0
20°	3066.6	3005.5	2853.2	2777.2	2709.9
22.5°	2987.4	2917.2	2740.3	2636.9	2591.2
25°	2908.2	2810.5	2609.3	2484.4	2438.6
27.5°	2813.7	2709.9	2487.4	2344.1	2273.9
30°	2713.1	2597.0	2353.1	2198.0	2115.5
32.5°	2615.5	2475.1	2225.4	2042.4	1966.0
35°	2505.8	2350.3	2082.2	1890.1	1822.7
37.5°	2399.1	2231.2	1947.9	1737.4	1661.4
40°	2286.2	2103.5	1807.6	1591.2	1512.0
42.5°	2170.4	1975.4	1667.6	1441.8	1365.8
45°	2048.5	1844.1	1524.3	1307.6	1234.5
47.5°	1932.8	1716.4	1387.1	1170.4	1103.5
50°	1804.7	1588.3	1252.9	1042.4	978.7
52.5°	1679.5	1450.9	1124.9	923.6	865.8
55°	1557.5	1319.9	990.6	807.9	750.0
57.5°	1432.8	1188.8	872.0	701.1	652.3
60°	1304.7	1060.8	746.8	591.5	542.7
62.5°	1179.8	935.9	640.0	493.9	469.6
65°	1051.8	804.6	530.4	426.9	417.5
67.5°	929.8	682.7	426.9	374.8	365.8
70°	801.7	564.1	353.5	323.1	310.8
72.5°	679.8	454.0	295.6	271.3	265.2
75°	560.8	347.4	243.8	222.5	219.6
77.5°	442.1	246.8	192.1	179.8	173.7
80°	332.1	176.9	146.2	134.2	134.2
82.5°	231.5	119.0	100.6	94.5	94.5
85°	131.0	66.9	57.9	57.9	57.9
87.5°	48.8	24.3	24.3	21.4	21.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931562

CATALOG NUMBER: DFN2DS-TR4F0-100DS930-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	14.65	16.18	15.02	16.49	16.80	10.61	12.14	10.98	12.45	12.76
	3H	16.42	17.78	16.80	18.11	18.47	11.88	13.25	12.26	13.57	13.93
	4H	17.09	18.37	17.49	18.72	19.09	12.38	13.66	12.78	14.01	14.39
	6H	17.57	18.76	17.99	19.12	19.52	12.76	13.95	13.17	14.31	14.70
	8H	17.74	18.87	18.17	19.26	19.66	12.89	14.01	13.31	14.40	14.80
	12H	17.84	18.92	18.27	19.30	19.73	12.97	14.05	13.40	14.43	14.86
4H	2H	14.76	16.04	15.16	16.39	16.77	11.31	12.59	11.71	12.94	13.32
	3H	16.69	17.75	17.10	18.15	18.56	12.75	13.82	13.16	14.22	14.62
	4H	17.44	18.40	17.87	18.81	19.25	13.35	14.31	13.79	14.72	15.16
	6H	18.03	18.86	18.49	19.31	19.77	13.84	14.67	14.30	15.12	15.58
	8H	18.25	19.02	18.71	19.47	19.94	14.00	14.78	14.47	15.22	15.69
	12H	18.40	19.10	18.88	19.57	20.04	14.12	14.82	14.60	15.29	15.76
8H	4H	17.47	18.24	17.93	18.69	19.15	13.71	14.48	14.17	14.93	15.40
	6H	18.10	18.75	18.60	19.24	19.71	14.29	14.94	14.79	15.43	15.90
	8H	18.35	18.93	18.87	19.44	19.93	14.51	15.09	15.03	15.60	16.09
	12H	18.56	19.07	19.07	19.56	20.12	14.69	15.20	15.20	15.70	16.26
12H	4H	17.45	18.14	17.93	18.62	19.09	13.75	14.44	14.23	14.92	15.39
	6H	18.08	18.66	18.60	19.17	19.66	14.36	14.93	14.87	15.44	15.93
	8H	18.37	18.88	18.88	19.37	19.93	14.63	15.14	15.14	15.63	16.20