

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: P931456

Luminaire Tested: DFN2DS-TR4F0-040DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931456
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-TR4F0-040DS935-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

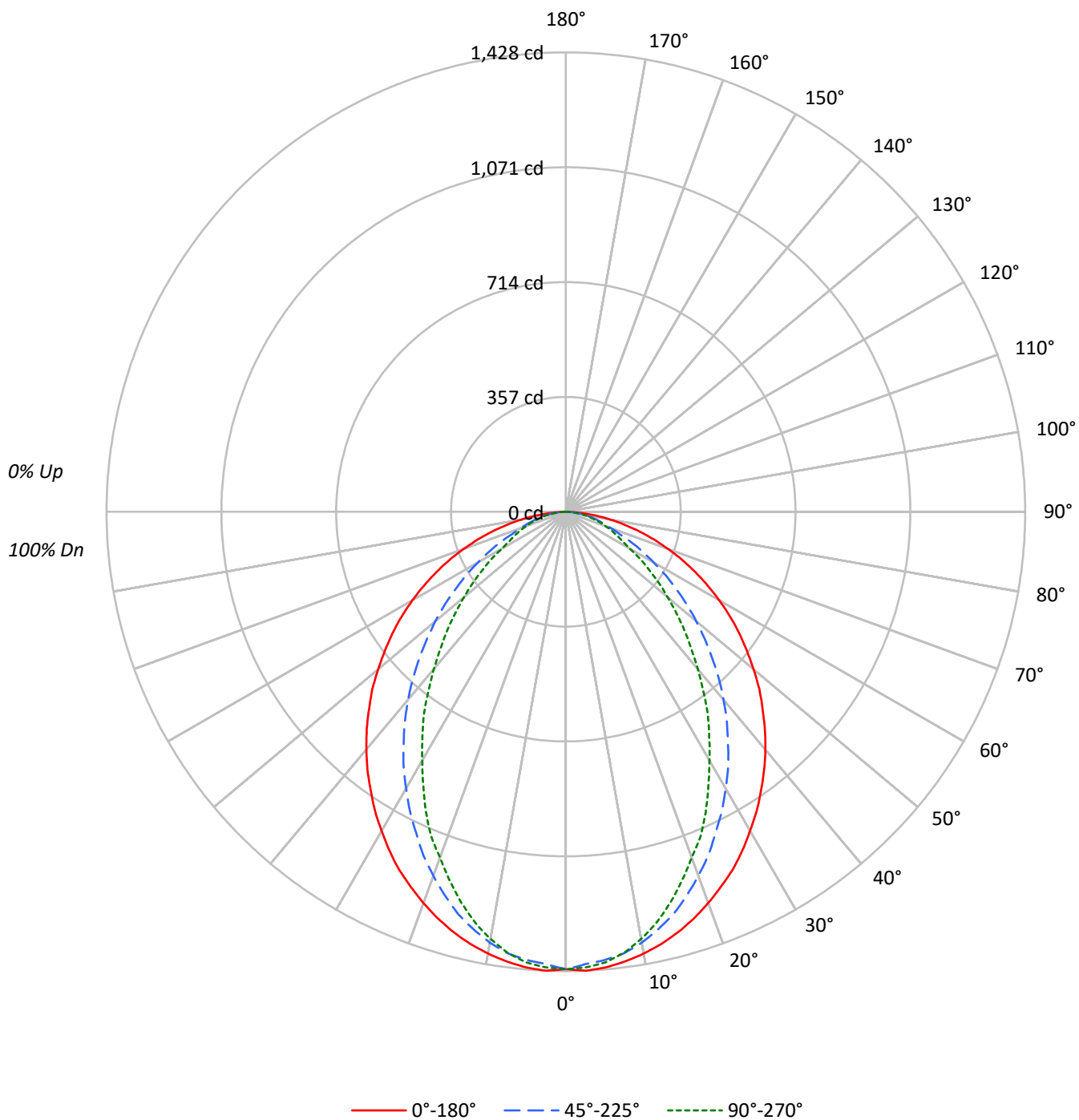
Lumens per Lamp: N/A
Luminaire Lumens: 2924.0 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 38.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931456

CATALOG NUMBER: DFN2DS-TR4F0-040DS935-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°	1130	1130	1130
5°	1134	1115	1122
10°	1125	1097	1088
15°	1112	1065	1034
20°	1094	1018	967
25°	1076	965	902
30°	1051	911	819
35°	1026	852	746
40°	1001	791	662
45°	971	723	585
50°	941	654	511
55°	911	579	439
60°	875	501	364
65°	834	421	331
70°	786	347	305
75°	727	316	285
80°	641	282	259
85°	504	222	222

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 971 cd/sqm

TEST NUMBER: P931456

CATALOG NUMBER: DFN2DS-TR4F0-040DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.2	4.6
10°-20°	365.8	12.5
20°-30°	513.6	17.6
30°-40°	559.8	19.1
40°-50°	514.5	17.6
50°-60°	404.1	13.8
60°-70°	263.0	9.0
70°-80°	135.4	4.6
80°-90°	34.6	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°	1012.6	34.6
0°-40°	1572.4	53.8
0°-60°	2491.0	85.2
0°-90°	2924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2924.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1422	1422	1422	1422	1422	
5°	1422	1415	1398	1410	1406	135
15°	1352	1338	1294	1270	1257	381
25°	1228	1186	1101	1049	1029	565
35°	1058	992	879	798	769	662
45°	865	778	643	552	521	668
55°	658	557	418	341	317	588
65°	444	340	224	180	176	440
75°	237	147	103	94	93	250
85°	55	28	24	24	24	66
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-TR4F0-040DS935-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1421.8	1421.8	1421.8	1421.8	1421.8
2.5°	1428.2	1421.8	1407.6	1420.5	1417.9
5°	1421.8	1415.3	1398.5	1410.1	1406.4
7.5°	1410.1	1402.5	1384.5	1389.5	1383.1
10°	1394.7	1385.7	1360.0	1356.0	1348.5
12.5°	1375.5	1363.9	1329.0	1321.4	1307.2
15°	1352.3	1338.1	1294.4	1270.0	1257.1
17.5°	1325.3	1304.6	1250.5	1222.3	1201.7
20°	1294.4	1268.6	1204.3	1172.2	1143.8
22.5°	1260.9	1231.3	1156.6	1112.9	1093.7
25°	1227.5	1186.3	1101.3	1048.7	1029.2
27.5°	1187.7	1143.8	1049.9	989.4	959.8
30°	1145.2	1096.2	993.2	927.7	892.9
32.5°	1104.0	1044.7	939.3	862.1	829.8
35°	1057.7	992.0	878.8	797.7	769.4
37.5°	1012.6	941.8	822.2	733.3	701.2
40°	965.0	887.9	763.0	671.7	638.2
42.5°	916.1	833.8	703.8	608.5	576.5
45°	864.6	778.4	643.4	551.9	521.1
47.5°	815.8	724.5	585.5	494.1	465.8
50°	761.7	670.4	528.8	440.0	413.1
52.5°	708.9	612.4	474.8	389.8	365.4
55°	657.5	557.1	418.1	341.0	316.6
57.5°	604.8	501.8	368.0	295.9	275.4
60°	550.7	447.7	315.2	249.7	229.1
62.5°	498.0	395.1	270.1	208.5	198.2
65°	443.9	339.6	223.9	180.2	176.2
67.5°	392.5	288.2	180.2	158.2	154.4
70°	338.4	238.0	149.2	136.4	131.2
72.5°	287.0	191.7	124.8	114.6	112.0
75°	236.7	146.6	102.9	93.9	92.7
77.5°	186.6	104.1	81.1	75.9	73.3
80°	140.2	74.6	61.7	56.7	56.7
82.5°	97.8	50.2	42.5	39.8	39.8
85°	55.3	28.3	24.4	24.4	24.4
87.5°	20.6	10.2	10.2	9.0	9.0
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	11.66	13.18	12.02	13.49	13.81	7.62	9.14	7.98	9.45	9.77
	3H	13.42	14.79	13.80	15.12	15.48	8.88	10.25	9.26	10.58	10.94
	4H	14.09	15.37	14.49	15.72	16.10	9.39	10.67	9.78	11.01	11.39
	6H	14.58	15.76	14.99	16.13	16.52	9.77	10.95	10.18	11.32	11.71
	8H	14.74	15.87	15.17	16.26	16.66	9.89	11.02	10.32	11.41	11.81
	12H	14.85	15.93	15.28	16.31	16.74	9.97	11.05	10.40	11.43	11.86
4H	2H	11.76	13.04	12.16	13.39	13.77	8.31	9.59	8.71	9.94	10.32
	3H	13.70	14.76	14.11	15.16	15.56	9.76	10.82	10.17	11.22	11.62
	4H	14.44	15.40	14.88	15.82	16.26	10.36	11.31	10.79	11.73	12.17
	6H	15.04	15.87	15.49	16.31	16.77	10.85	11.68	11.30	12.12	12.58
	8H	15.25	16.03	15.71	16.47	16.94	11.01	11.78	11.47	12.23	12.70
	12H	15.40	16.10	15.89	16.58	17.05	11.12	11.82	11.61	12.30	12.77
8H	4H	14.47	15.25	14.93	15.69	16.16	10.71	11.49	11.17	11.93	12.40
	6H	15.11	15.75	15.60	16.24	16.72	11.30	11.94	11.79	12.43	12.91
	8H	15.36	15.93	15.87	16.44	16.93	11.52	12.09	12.03	12.60	13.09
	12H	15.56	16.07	16.07	16.56	17.13	11.70	12.21	12.21	12.70	13.26
12H	4H	14.45	15.15	14.94	15.63	16.10	10.75	11.45	11.24	11.93	12.40
	6H	15.09	15.66	15.60	16.17	16.66	11.36	11.94	11.87	12.45	12.94
	8H	15.37	15.88	15.88	16.37	16.94	11.63	12.14	12.14	12.64	13.20