

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: P929998

Luminaire Tested: DFN2DS-4P4F0-060DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929998
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-4P4F0-060DS935-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

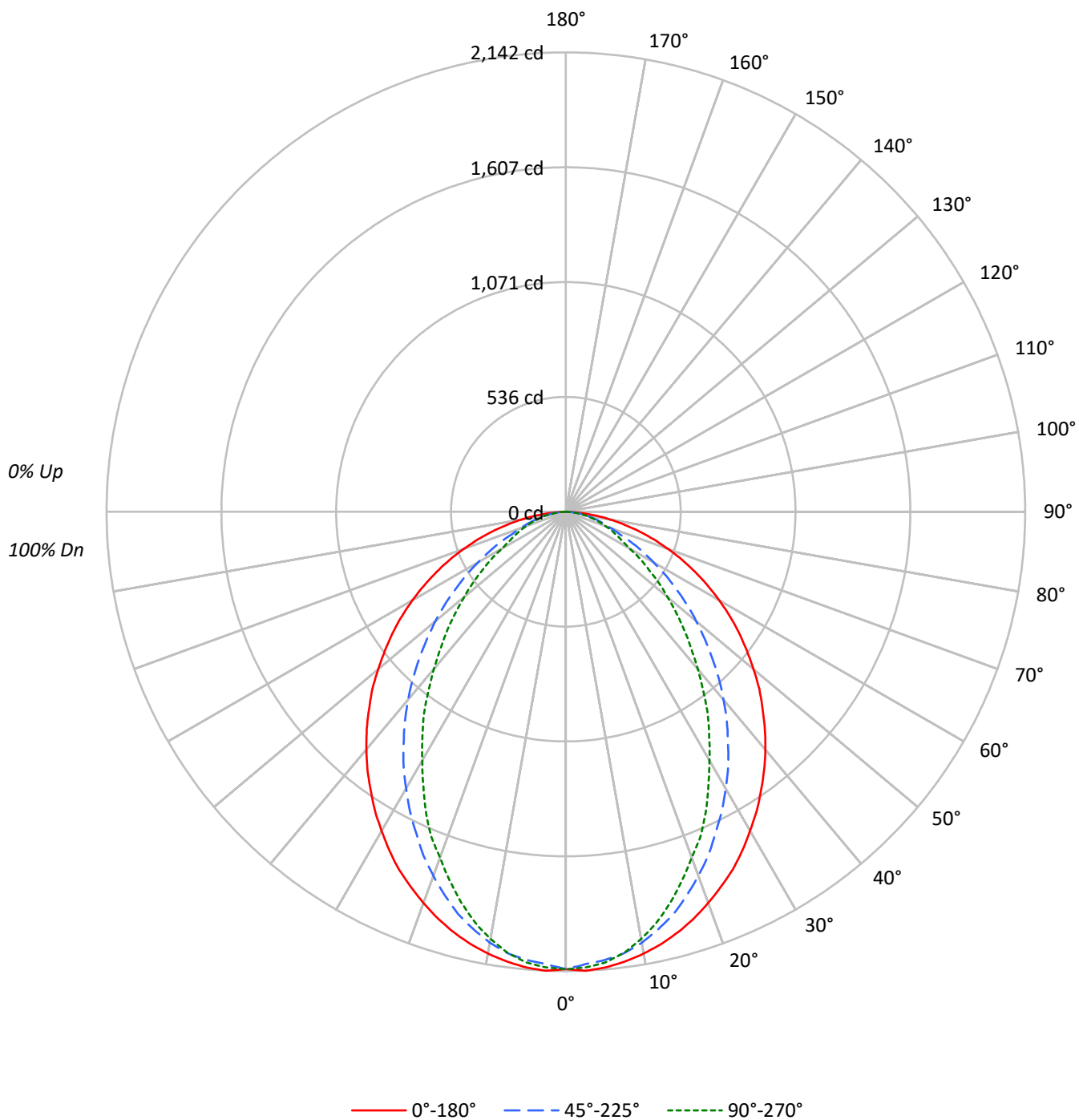
Lumens per Lamp: N/A
Luminaire Lumens: 4386.0 lumens
Efficiency: N/A
Efficacy: 70.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 62
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929998

CATALOG NUMBER: DFN2DS-4P4F0-060DS935-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P929998

CATALOG NUMBER: DFN2DS-4P4F0-060DS935-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°	1384	1384	1384
5°	1389	1366	1374
10°	1378	1344	1332
15°	1362	1304	1266
20°	1340	1247	1184
25°	1318	1183	1105
30°	1287	1116	1003
35°	1256	1044	914
40°	1226	969	811
45°	1190	885	717
50°	1153	801	625
55°	1115	709	537
60°	1072	613	446
65°	1022	515	406
70°	963	425	373
75°	890	387	349
80°	786	346	318
85°	617	272	272

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1190 cd/sqm

TEST NUMBER: P929998

CATALOG NUMBER: DFN2DS-4P4F0-060DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.9	4.6
10°-20°	548.7	12.5
20°-30°	770.3	17.6
30°-40°	839.7	19.1
40°-50°	771.8	17.6
50°-60°	606.1	13.8
60°-70°	394.5	9.0
70°-80°	203.1	4.6
80°-90°	51.8	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°	1518.9	34.6
0°-40°	2358.6	53.8
0°-60°	3736.5	85.2
0°-90°	4386.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4386.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2133	2133	2133	2133	2133	
5°	2133	2123	2098	2115	2110	202
15°	2028	2007	1942	1905	1886	572
25°	1841	1779	1652	1573	1544	847
35°	1586	1488	1318	1197	1154	993
45°	1297	1168	965	828	782	1002
55°	986	836	627	512	475	881
65°	666	510	336	270	264	660
75°	355	220	154	141	139	376
85°	83	42	37	37	37	99
90°	0	0	0	0	0	

TEST NUMBER: P929998

CATALOG NUMBER: DFN2DS-4P4F0-060DS935-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2132.6	2132.6	2132.6	2132.6	2132.6
2.5°	2142.3	2132.6	2111.3	2130.7	2126.9
5°	2132.6	2123.0	2097.8	2115.3	2109.5
7.5°	2115.3	2103.7	2076.7	2084.3	2074.7
10°	2092.0	2078.5	2040.1	2034.2	2022.6
12.5°	2063.2	2045.8	1993.6	1982.1	1960.8
15°	2028.4	2007.1	1941.5	1904.9	1885.6
17.5°	1987.9	1956.9	1875.8	1833.4	1802.6
20°	1941.5	1902.8	1806.4	1758.3	1715.7
22.5°	1891.4	1846.9	1735.0	1669.4	1640.5
25°	1841.3	1779.4	1652.1	1573.0	1544.0
27.5°	1781.5	1715.7	1574.8	1484.1	1439.7
30°	1717.8	1644.2	1489.9	1391.6	1339.4
32.5°	1655.9	1567.1	1409.0	1293.1	1244.8
35°	1586.5	1488.1	1318.3	1196.6	1154.0
37.5°	1518.9	1412.6	1233.3	1100.0	1051.9
40°	1447.5	1331.8	1144.4	1007.4	957.3
42.5°	1374.2	1250.7	1055.7	912.8	864.7
45°	1297.0	1167.5	965.1	827.8	781.6
47.5°	1223.7	1086.7	878.2	741.1	698.7
50°	1142.6	1005.6	793.3	660.0	619.6
52.5°	1063.3	918.6	712.2	584.8	548.2
55°	986.2	835.7	627.2	511.5	474.8
57.5°	907.1	752.7	552.0	443.9	413.0
60°	826.0	671.7	472.8	374.5	343.6
62.5°	747.0	592.6	405.2	312.7	297.3
65°	665.9	509.5	335.8	270.3	264.4
67.5°	588.7	432.2	270.3	237.4	231.6
70°	507.6	357.1	223.8	204.6	196.8
72.5°	430.4	287.5	187.1	171.8	167.9
75°	355.1	219.9	154.4	140.9	139.1
77.5°	279.9	156.3	121.6	113.9	110.0
80°	210.3	112.0	92.5	85.0	85.0
82.5°	146.6	75.3	63.6	59.8	59.8
85°	82.9	42.4	36.6	36.6	36.6
87.5°	31.0	15.4	15.4	13.5	13.5
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929998

CATALOG NUMBER: DFN2DS-4P4F0-060DS935-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	12.36	13.88	12.73	14.20	14.51	8.32	9.84	8.69	10.16	10.47
	3H	14.13	15.49	14.51	15.82	16.18	9.59	10.95	9.97	11.28	11.64
	4H	14.79	16.07	15.19	16.42	16.80	10.09	11.37	10.49	11.72	12.10
	6H	15.28	16.47	15.70	16.83	17.22	10.47	11.65	10.88	12.02	12.41
	8H	15.45	16.57	15.87	16.96	17.37	10.60	11.72	11.02	12.11	12.51
	12H	15.55	16.63	15.98	17.01	17.44	10.68	11.76	11.11	12.14	12.57
4H	2H	12.47	13.75	12.87	14.10	14.47	9.02	10.30	9.42	10.65	11.03
	3H	14.40	15.46	14.81	15.86	16.26	10.46	11.52	10.87	11.92	12.33
	4H	15.15	16.11	15.58	16.52	16.96	11.06	12.02	11.49	12.43	12.87
	6H	15.74	16.57	16.20	17.02	17.48	11.55	12.38	12.01	12.82	13.28
	8H	15.96	16.73	16.42	17.18	17.64	11.71	12.49	12.18	12.93	13.40
	12H	16.11	16.80	16.59	17.28	17.75	11.83	12.52	12.31	13.00	13.47
8H	4H	15.17	15.95	15.64	16.39	16.86	11.42	12.19	11.88	12.64	13.10
	6H	15.81	16.45	16.31	16.94	17.42	12.00	12.64	12.50	13.14	13.61
	8H	16.06	16.64	16.58	17.15	17.64	12.22	12.80	12.74	13.31	13.80
	12H	16.27	16.77	16.77	17.27	17.83	12.40	12.91	12.91	13.40	13.97
12H	4H	15.16	15.85	15.64	16.33	16.80	11.46	12.15	11.94	12.63	13.10
	6H	15.79	16.37	16.31	16.88	17.37	12.07	12.64	12.58	13.15	13.64
	8H	16.08	16.59	16.59	17.08	17.64	12.34	12.85	12.85	13.34	13.91

END OF REPORT