

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: P929798

Luminaire Tested: DFN2DS-4P2F0-020DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929798
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-4P2F0-020DS930-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

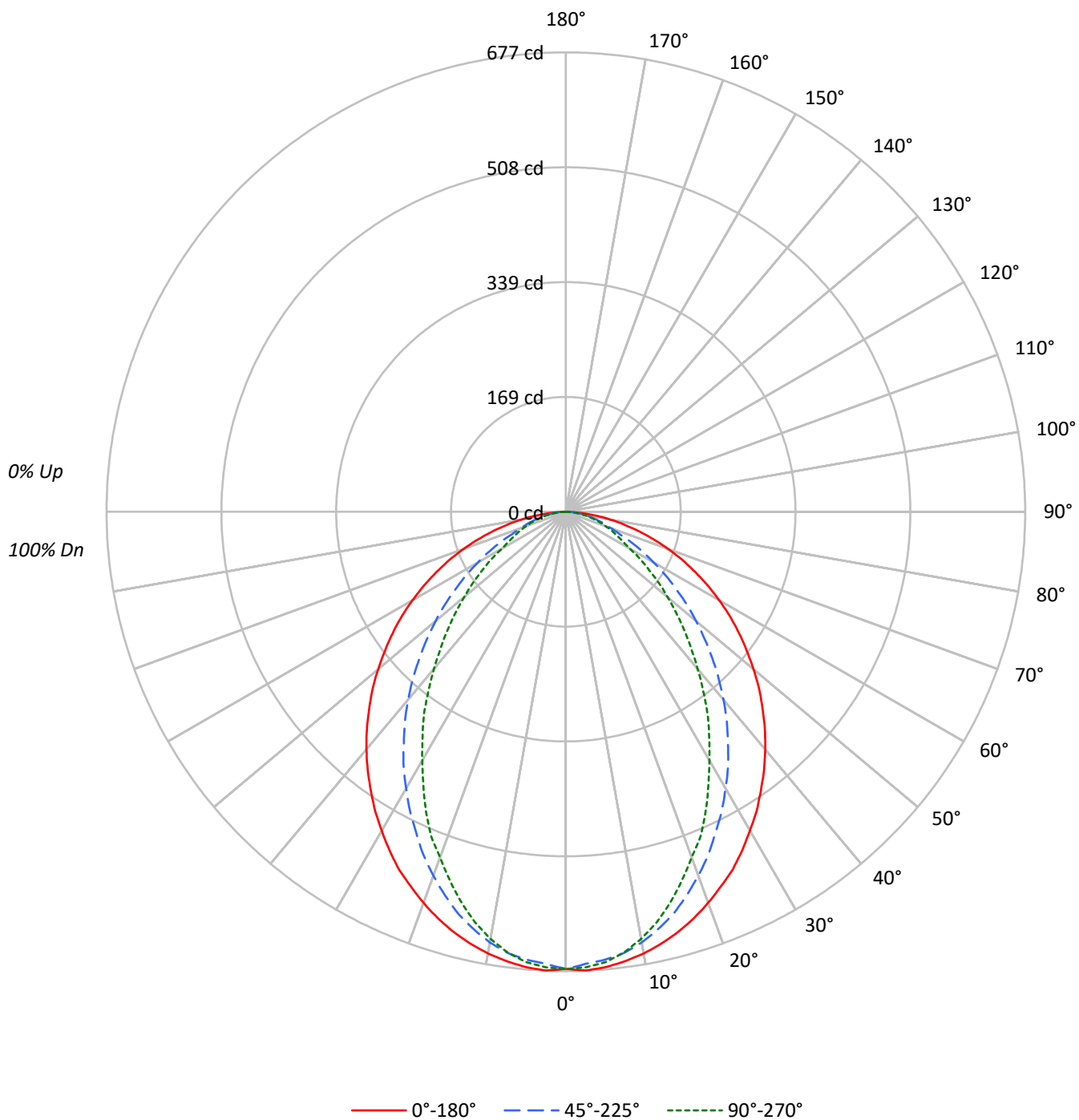
Lumens per Lamp: N/A
Luminaire Lumens: 1385.5 lumens
Efficiency: N/A
Efficacy: 71.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929798

CATALOG NUMBER: DFN2DS-4P2F0-020DS930-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P929798

CATALOG NUMBER: DFN2DS-4P2F0-020DS930-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°	1687	1687	1687
5°	1693	1666	1675
10°	1680	1638	1625
15°	1661	1590	1544
20°	1634	1521	1444
25°	1607	1442	1347
30°	1569	1361	1223
35°	1532	1273	1114
40°	1494	1182	988
45°	1451	1080	874
50°	1406	976	763
55°	1360	865	655
60°	1307	748	544
65°	1247	629	495
70°	1174	518	455
75°	1085	471	425
80°	957	423	386
85°	753	333	333

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1451 cd/sqm

TEST NUMBER: P929798

CATALOG NUMBER: DFN2DS-4P2F0-020DS930-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.1	4.6
10°-20°	173.3	12.5
20°-30°	243.3	17.6
30°-40°	265.3	19.1
40°-50°	243.8	17.6
50°-60°	191.5	13.8
60°-70°	124.6	9.0
70°-80°	64.1	4.6
80°-90°	16.4	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°	479.8	34.6
0°-40°	745.1	53.8
0°-60°	1180.4	85.2
0°-90°	1385.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1385.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	674	674	674	674	674	
5°	674	671	663	668	666	64
15°	641	634	613	602	596	181
25°	582	562	522	497	488	268
35°	501	470	416	378	364	314
45°	410	369	305	262	247	316
55°	312	264	198	162	150	278
65°	210	161	106	85	84	209
75°	112	69	49	44	44	119
85°	26	13	12	12	12	31
90°	0	0	0	0	0	

TEST NUMBER: P929798

CATALOG NUMBER: DFN2DS-4P2F0-020DS930-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	673.7	673.7	673.7	673.7	673.7
2.5°	676.7	673.7	666.9	673.1	671.9
5°	673.7	670.7	662.7	668.2	666.3
7.5°	668.2	664.6	656.0	658.4	655.3
10°	660.9	656.6	644.4	642.5	639.0
12.5°	651.8	646.2	629.8	626.2	619.4
15°	640.8	634.0	613.3	601.7	595.7
17.5°	628.0	618.2	592.6	579.1	569.4
20°	613.3	601.1	570.7	555.4	542.0
22.5°	597.5	583.5	548.1	527.4	518.3
25°	581.7	562.1	521.8	496.9	487.7
27.5°	562.8	542.0	497.5	468.8	454.8
30°	542.6	519.4	470.7	439.6	423.1
32.5°	523.1	495.0	445.1	408.5	393.2
35°	501.1	470.1	416.5	378.0	364.5
37.5°	479.8	446.2	389.6	347.5	332.3
40°	457.2	420.7	361.5	318.3	302.4
42.5°	434.1	395.1	333.5	288.3	273.2
45°	409.7	368.8	304.9	261.5	246.9
47.5°	386.6	343.3	277.4	234.1	220.7
50°	361.0	317.7	250.6	208.5	195.8
52.5°	335.9	290.1	224.9	184.8	173.2
55°	311.5	264.0	198.1	161.6	150.0
57.5°	286.6	237.7	174.4	140.3	130.5
60°	261.0	212.1	149.4	118.3	108.6
62.5°	235.9	187.2	128.0	98.8	93.9
65°	210.4	161.0	106.1	85.4	83.5
67.5°	186.0	136.5	85.4	75.0	73.2
70°	160.3	112.8	70.7	64.6	62.2
72.5°	135.9	90.8	59.1	54.3	53.1
75°	112.1	69.4	48.7	44.5	43.9
77.5°	88.4	49.4	38.4	35.9	34.7
80°	66.4	35.4	29.3	26.8	26.8
82.5°	46.3	23.8	20.1	18.9	18.9
85°	26.2	13.4	11.6	11.6	11.6
87.5°	9.8	4.9	4.9	4.2	4.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929798

CATALOG NUMBER: DFN2DS-4P2F0-020DS930-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	13.05	14.57	13.41	14.89	15.20	9.01	10.54	9.38	10.85	11.16
	3H	14.82	16.18	15.19	16.51	16.87	10.28	11.65	10.66	11.97	12.33
	4H	15.48	16.76	15.88	17.11	17.49	10.78	12.06	11.18	12.41	12.79
	6H	15.97	17.15	16.38	17.52	17.91	11.16	12.34	11.57	12.71	13.10
	8H	16.14	17.26	16.56	17.65	18.05	11.29	12.41	11.71	12.80	13.20
	12H	16.24	17.32	16.67	17.70	18.13	11.37	12.44	11.80	12.83	13.26
4H	2H	13.15	14.43	13.55	14.78	15.16	9.71	10.99	10.11	11.34	11.72
	3H	15.09	16.15	15.50	16.55	16.95	11.15	12.22	11.56	12.62	13.02
	4H	15.84	16.79	16.27	17.21	17.65	11.75	12.71	12.18	13.12	13.56
	6H	16.43	17.26	16.89	17.70	18.16	12.24	13.07	12.70	13.51	13.97
	8H	16.64	17.42	17.11	17.86	18.33	12.40	13.18	12.86	13.62	14.09
	12H	16.80	17.49	17.28	17.97	18.44	12.52	13.21	13.00	13.69	14.16
8H	4H	15.86	16.64	16.32	17.08	17.55	12.10	12.88	12.57	13.33	13.79
	6H	16.50	17.14	17.00	17.63	18.11	12.69	13.33	13.19	13.82	14.30
	8H	16.75	17.33	17.26	17.84	18.32	12.91	13.49	13.42	14.00	14.49
	12H	16.95	17.46	17.46	17.95	18.52	13.09	13.60	13.60	14.09	14.66
12H	4H	15.84	16.54	16.33	17.02	17.49	12.15	12.84	12.63	13.32	13.79
	6H	16.48	17.06	16.99	17.57	18.05	12.75	13.33	13.27	13.84	14.33
	8H	16.76	17.27	17.27	17.77	18.33	13.03	13.54	13.54	14.03	14.59