

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: P931186

Luminaire Tested: DFN2DS-SQ4F0-120DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931186
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-SQ4F0-120DS935-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

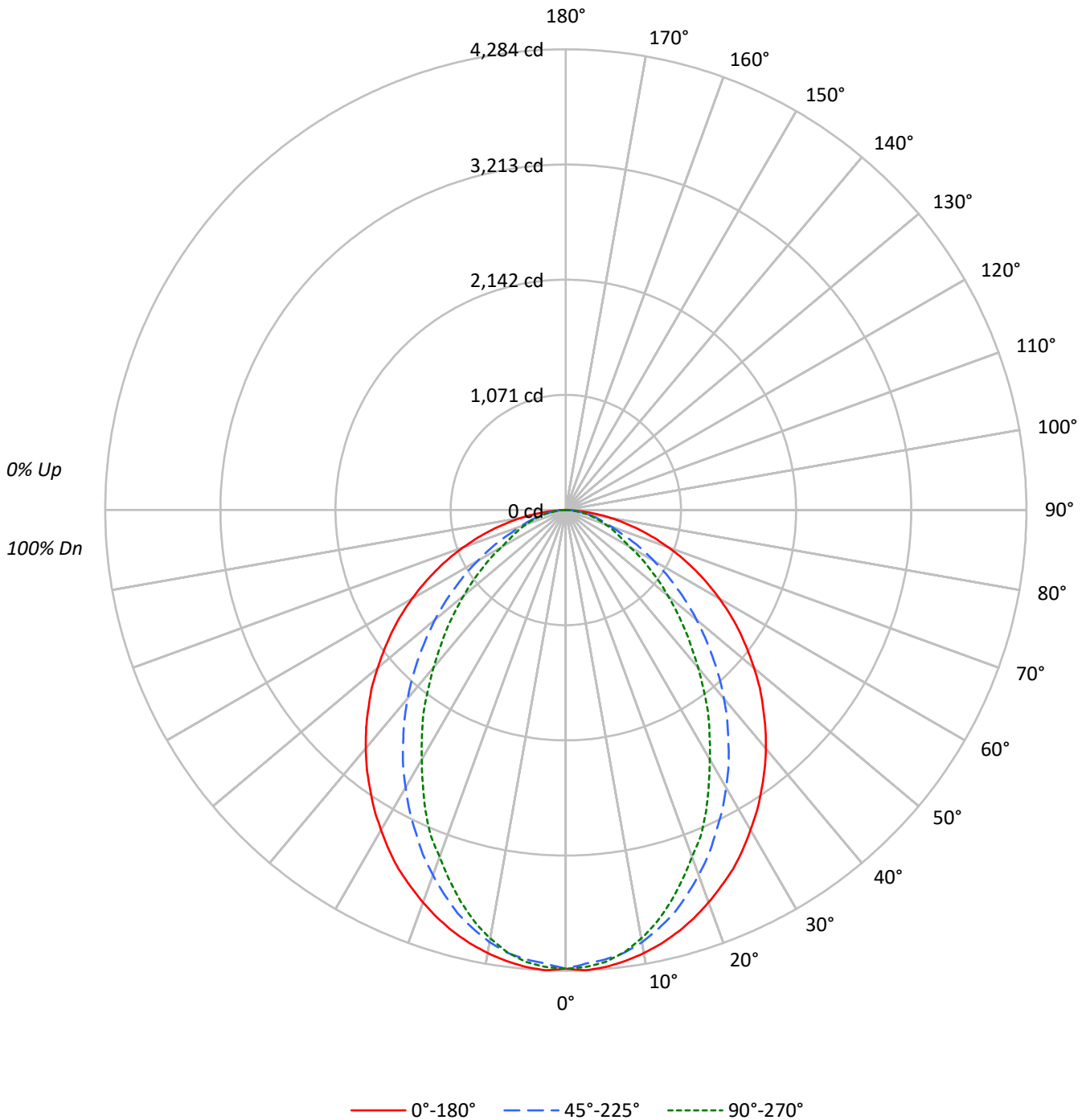
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8772.0 lumens
Efficiency: N/A
Efficacy: 69.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
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: P931186
CATALOG NUMBER: DFN2DS-SQ4F0-120DS935-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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2993	2993	2993
5°	3004	2955	2972
10°	2981	2907	2882
15°	2947	2821	2740
20°	2900	2698	2562
25°	2851	2558	2391
30°	2784	2414	2170
35°	2718	2258	1977
40°	2652	2097	1754
45°	2574	1915	1551
50°	2495	1732	1353
55°	2413	1535	1162
60°	2318	1327	964
65°	2211	1115	878
70°	2083	918	807
75°	1925	837	754
80°	1700	748	687
85°	1336	590	590

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2574 cd/sqm



TEST NUMBER: P931186
 CATALOG NUMBER: DFN2DS-SQ4F0-120DS935-RL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.7	4.6
10°-20°	1097.4	12.5
20°-30°	1540.7	17.6
30°-40°	1679.4	19.1
40°-50°	1543.6	17.6
50°-60°	1212.2	13.8
60°-70°	789.1	9.0
70°-80°	406.2	4.6
80°-90°	103.7	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°	3037.8	34.6
0°-40°	4717.2	53.8
0°-60°	7473.1	85.2
0°-90°	8772.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8772.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4265	4265	4265	4265	4265	
5°	4265	4246	4196	4230	4219	404
15°	4057	4014	3883	3810	3771	1143
25°	3682	3559	3304	3146	3088	1694
35°	3173	2976	2636	2393	2308	1986
45°	2594	2335	1930	1656	1563	2003
55°	1972	1671	1254	1023	950	1762
65°	1332	1019	672	541	529	1320
75°	710	440	309	282	278	751
85°	166	85	73	73	73	199
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4265.3	4265.3	4265.3	4265.3	4265.3
2.5°	4284.5	4265.3	4222.7	4261.6	4253.7
5°	4265.3	4246.0	4195.6	4230.4	4219.0
7.5°	4230.4	4207.5	4153.5	4168.6	4149.3
10°	4184.2	4157.2	4080.1	4068.2	4045.4
12.5°	4126.4	4091.6	3987.1	3964.3	3921.7
15°	4056.8	4014.2	3883.2	3809.8	3771.4
17.5°	3975.7	3913.9	3751.7	3667.0	3605.1
20°	3883.2	3805.8	3612.9	3516.6	3431.4
22.5°	3782.8	3694.0	3469.9	3338.9	3281.2
25°	3682.5	3558.8	3304.0	3146.0	3087.8
27.5°	3562.9	3431.4	3149.7	2968.3	2879.4
30°	3435.5	3288.6	2979.7	2783.1	2678.7
32.5°	3311.9	3134.1	2818.0	2586.2	2489.5
35°	3173.1	2976.0	2636.5	2393.3	2308.1
37.5°	3037.9	2825.4	2466.6	2200.0	2103.7
40°	2894.9	2663.6	2288.9	2014.9	1914.5
42.5°	2748.3	2501.4	2111.6	1825.7	1729.5
45°	2593.9	2335.2	1930.1	1655.8	1563.1
47.5°	2447.3	2173.4	1756.5	1482.1	1397.3
50°	2285.2	2011.2	1586.5	1319.9	1239.3
52.5°	2126.7	1837.1	1424.3	1169.6	1096.3
55°	1972.3	1671.3	1254.4	1023.0	949.7
57.5°	1814.2	1505.4	1104.1	887.9	826.0
60°	1652.1	1343.2	945.6	749.1	687.2
62.5°	1494.0	1185.2	810.5	625.4	594.6
65°	1331.8	1018.9	671.7	540.6	528.7
67.5°	1177.4	864.5	540.6	474.6	463.2
70°	1015.2	714.2	447.6	409.1	393.5
72.5°	860.9	575.0	374.3	343.6	335.8
75°	710.1	439.8	308.8	281.7	278.0
77.5°	559.9	312.4	243.3	227.7	219.9
80°	420.6	224.0	185.1	169.9	169.9
82.5°	293.3	150.7	127.4	119.5	119.5
85°	165.9	84.8	73.3	73.3	73.3
87.5°	61.8	30.7	30.7	27.0	27.0
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	15.04	16.56	15.41	16.88	17.19	11.00	12.53	11.37	12.84	13.15
	3H	16.81	18.17	17.19	18.50	18.86	12.27	13.63	12.65	13.96	14.32
	4H	17.47	18.76	17.87	19.10	19.48	12.77	14.05	13.17	14.40	14.78
	6H	17.96	19.15	18.38	19.51	19.91	13.15	14.33	13.56	14.70	15.09
	8H	18.13	19.26	18.56	19.65	20.05	13.28	14.40	13.70	14.79	15.19
	12H	18.23	19.31	18.66	19.69	20.12	13.36	14.44	13.79	14.82	15.25
4H	2H	15.15	16.43	15.55	16.78	17.16	11.70	12.98	12.10	13.33	13.71
	3H	17.08	18.14	17.49	18.54	18.94	13.14	14.21	13.55	14.61	15.01
	4H	17.83	18.79	18.26	19.20	19.64	13.74	14.70	14.17	15.11	15.55
	6H	18.42	19.25	18.88	19.70	20.16	14.23	15.06	14.69	15.50	15.96
	8H	18.64	19.41	19.10	19.86	20.33	14.39	15.17	14.86	15.61	16.08
	12H	18.79	19.48	19.27	19.96	20.43	14.51	15.20	14.99	15.68	16.15
8H	4H	17.85	18.63	18.32	19.08	19.54	14.10	14.87	14.56	15.32	15.78
	6H	18.49	19.13	18.99	19.63	20.10	14.68	15.32	15.18	15.82	16.29
	8H	18.74	19.32	19.26	19.83	20.32	14.90	15.48	15.42	15.99	16.48
	12H	18.95	19.46	19.46	19.95	20.51	15.08	15.59	15.59	16.08	16.65
12H	4H	17.84	18.53	18.32	19.01	19.48	14.14	14.83	14.62	15.31	15.78
	6H	18.47	19.05	18.99	19.56	20.05	14.75	15.32	15.26	15.83	16.32
	8H	18.76	19.27	19.27	19.76	20.32	15.02	15.53	15.53	16.02	16.59