

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: P930790

Luminaire Tested: DFN2DS-PN4F0-120DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930790
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-PN4F0-120DS935-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

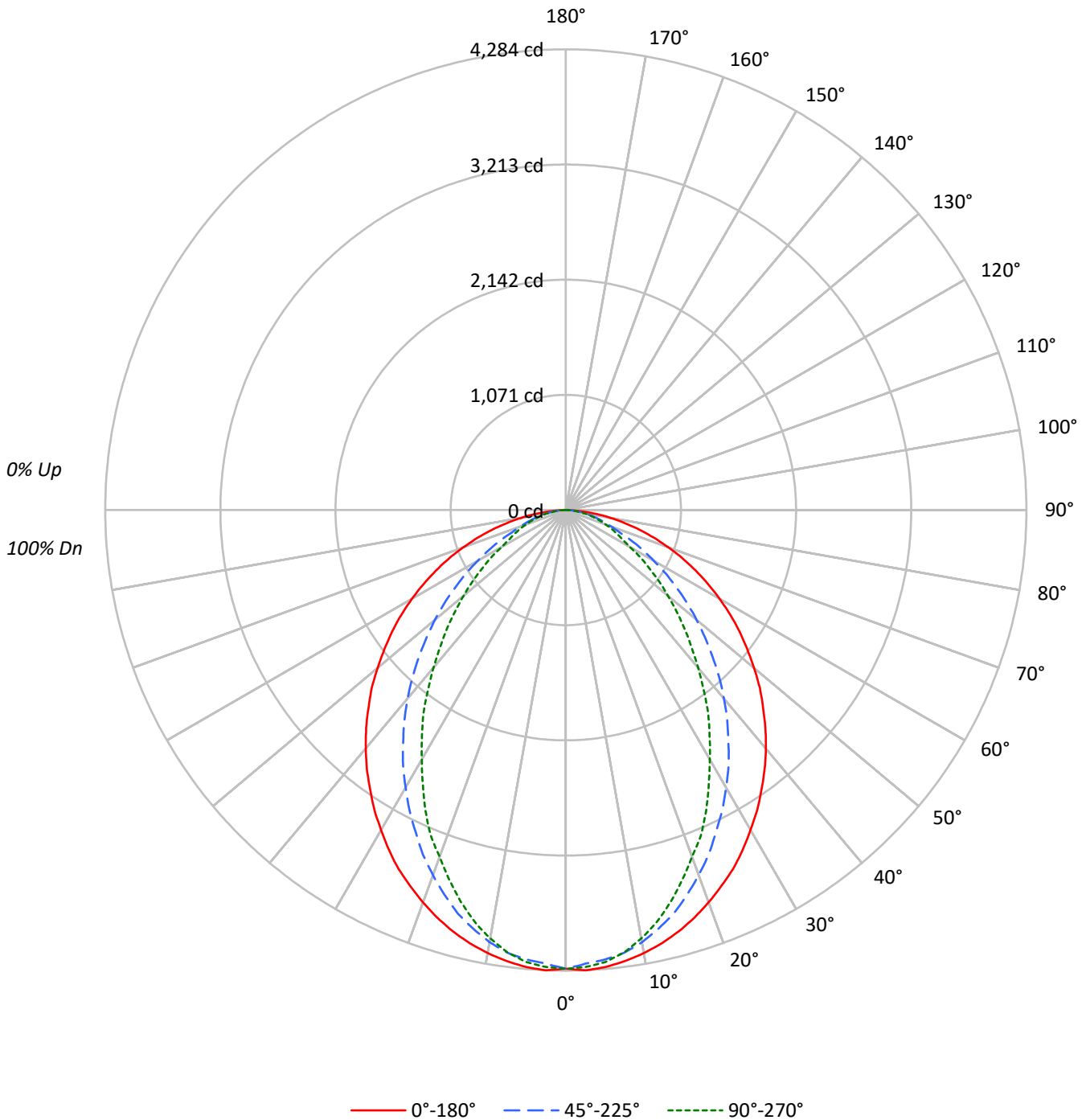
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8772.0 lumens
Efficiency: N/A
Efficacy: 67.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3113	3113	3113
5°	3125	3074	3091
10°	3101	3024	2999
15°	3066	2935	2850
20°	3016	2807	2666
25°	2966	2661	2487
30°	2896	2512	2258
35°	2828	2349	2057
40°	2759	2181	1824
45°	2678	1992	1614
50°	2595	1802	1407
55°	2510	1596	1209
60°	2412	1380	1003
65°	2300	1160	913
70°	2167	955	840
75°	2003	871	784
80°	1768	778	714
85°	1389	614	614

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2678 cd/sqm



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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	15.18	16.70	15.55	17.02	17.33	11.14	12.66	11.51	12.98	13.29
	3H	16.95	18.31	17.32	18.64	19.00	12.41	13.77	12.78	14.10	14.46
	4H	17.61	18.89	18.01	19.24	19.62	12.91	14.19	13.31	14.54	14.92
	6H	18.10	19.28	18.51	19.65	20.04	13.29	14.47	13.70	14.84	15.23
	8H	18.27	19.39	18.69	19.78	20.18	13.41	14.54	13.84	14.93	15.33
	12H	18.37	19.45	18.80	19.83	20.26	13.49	14.57	13.92	14.95	15.38
4H	2H	15.28	16.57	15.68	16.91	17.29	11.84	13.12	12.24	13.47	13.84
	3H	17.22	18.28	17.63	18.68	19.08	13.28	14.34	13.69	14.74	15.14
	4H	17.97	18.92	18.40	19.34	19.78	13.88	14.84	14.31	15.25	15.69
	6H	18.56	19.39	19.02	19.83	20.29	14.37	15.20	14.82	15.64	16.10
	8H	18.77	19.55	19.24	20.00	20.46	14.53	15.31	14.99	15.75	16.22
	12H	18.93	19.62	19.41	20.10	20.57	14.65	15.34	15.13	15.82	16.29
8H	4H	17.99	18.77	18.45	19.21	19.68	14.23	15.01	14.70	15.45	15.92
	6H	18.63	19.27	19.13	19.76	20.24	14.82	15.46	15.32	15.95	16.43
	8H	18.88	19.46	19.39	19.97	20.45	15.04	15.62	15.55	16.13	16.61
	12H	19.08	19.59	19.59	20.09	20.65	15.22	15.73	15.73	16.22	16.79
12H	4H	17.98	18.67	18.46	19.15	19.62	14.28	14.97	14.76	15.45	15.92
	6H	18.61	19.19	19.12	19.70	20.19	14.88	15.46	15.40	15.97	16.46
	8H	18.89	19.40	19.40	19.90	20.46	15.16	15.67	15.67	16.16	16.72