

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: P930448

Luminaire Tested: DFN2DS-PN2F0-030DS935-RLL

Issue Date: 11/20/2024

**Test Information**

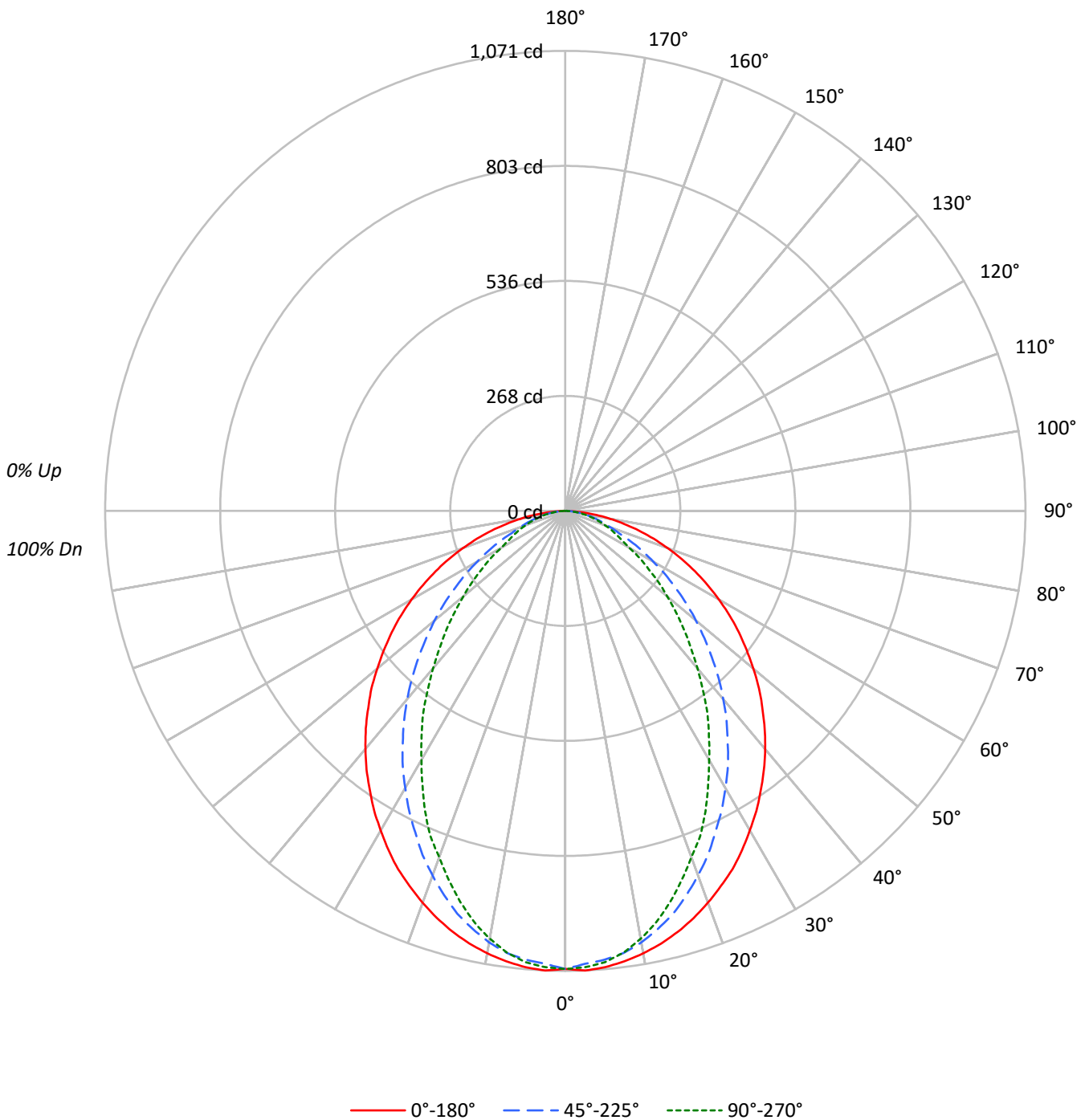
Test Method: LM-79-2019  
Report Number: P930448  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-PN2F0-030DS935-RLL  
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2193.0 lumens  
Efficiency: N/A  
Efficacy: 71.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9972  
Total Harmonic Distortion (THDi): 0.128  
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	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°	2309	2309	2309
5°	2318	2280	2293
10°	2300	2243	2224
15°	2274	2177	2114
20°	2238	2082	1977
25°	2200	1974	1845
30°	2148	1863	1675
35°	2098	1743	1526
40°	2046	1618	1353
45°	1986	1478	1197
50°	1925	1336	1044
55°	1862	1184	896
60°	1789	1024	744
65°	1706	860	678
70°	1607	709	623
75°	1485	646	582
80°	1312	577	530
85°	1031	455	455

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1986 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.9	4.6
10°-20°	274.3	12.5
20°-30°	385.2	17.6
30°-40°	419.9	19.1
40°-50°	385.9	17.6
50°-60°	303.1	13.8
60°-70°	197.3	9.0
70°-80°	101.5	4.6
80°-90°	25.9	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°	759.4	34.6
0°-40°	1179.3	53.8
0°-60°	1868.3	85.2
0°-90°	2193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2193.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1066	1062	1049	1058	1055	101
15°	1014	1004	971	952	943	286
25°	921	890	826	786	772	423
35°	793	744	659	598	577	497
45°	648	584	482	414	391	501
55°	493	418	314	256	237	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1066.3	1066.3	1066.3	1066.3	1066.3
2.5°	1071.1	1066.3	1055.6	1065.4	1063.5
5°	1066.3	1061.5	1048.9	1057.6	1054.7
7.5°	1057.6	1051.9	1038.4	1042.1	1037.3
10°	1046.0	1039.3	1020.0	1017.0	1011.4
12.5°	1031.6	1022.9	996.8	991.1	980.4
15°	1014.2	1003.5	970.8	952.4	942.8
17.5°	993.9	978.5	937.9	916.8	901.3
20°	970.8	951.4	903.2	879.2	857.8
22.5°	945.7	923.5	867.5	834.7	820.3
25°	920.6	889.7	826.0	786.5	771.9
27.5°	890.7	857.8	787.4	742.1	719.8
30°	858.9	822.2	744.9	695.8	669.7
32.5°	827.9	783.5	704.5	646.5	622.4
35°	793.3	744.0	659.1	598.3	577.1
37.5°	759.5	706.3	616.6	550.0	526.0
40°	723.8	665.9	572.2	503.7	478.7
42.5°	687.1	625.4	527.9	456.4	432.3
45°	648.5	583.8	482.5	413.9	390.8
47.5°	611.8	543.3	439.1	370.5	349.3
50°	571.3	502.8	396.6	330.0	309.8
52.5°	531.7	459.3	356.1	292.4	274.1
55°	493.0	417.8	313.6	255.8	237.4
57.5°	453.6	376.3	276.1	222.0	206.5
60°	413.0	335.8	236.4	187.2	171.8
62.5°	373.5	296.3	202.6	156.3	148.7
65°	332.9	254.7	167.9	135.1	132.2
67.5°	294.4	216.1	135.1	118.7	115.8
70°	253.8	178.5	111.9	102.3	98.4
72.5°	215.2	143.7	93.6	85.9	83.9
75°	177.5	110.0	77.2	70.4	69.5
77.5°	139.9	78.1	60.8	56.9	55.0
80°	105.2	56.0	46.3	42.5	42.5
82.5°	73.3	37.7	31.8	29.9	29.9
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
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	14.14	15.66	14.51	15.98	16.29	10.10	11.63	10.47	11.94	12.25
	3H	15.91	17.27	16.29	17.60	17.96	11.37	12.73	11.75	13.06	13.42
	4H	16.57	17.85	16.97	18.20	18.58	11.87	13.15	12.27	13.50	13.88
	6H	17.06	18.25	17.48	18.61	19.00	12.25	13.43	12.66	13.80	14.19
	8H	17.23	18.35	17.65	18.74	19.15	12.38	13.50	12.80	13.89	14.29
	12H	17.33	18.41	17.76	18.79	19.22	12.46	13.54	12.89	13.92	14.35
4H	2H	14.25	15.53	14.65	15.88	16.25	10.80	12.08	11.20	12.43	12.81
	3H	16.18	17.24	16.59	17.64	18.04	12.24	13.31	12.65	13.71	14.11
	4H	16.93	17.89	17.36	18.30	18.74	12.84	13.80	13.27	14.21	14.65
	6H	17.52	18.35	17.98	18.80	19.26	13.33	14.16	13.79	14.60	15.06
	8H	17.74	18.51	18.20	18.96	19.42	13.49	14.27	13.96	14.71	15.18
	12H	17.89	18.58	18.37	19.06	19.53	13.61	14.30	14.09	14.78	15.25
8H	4H	16.95	17.73	17.42	18.17	18.64	13.20	13.97	13.66	14.42	14.88
	6H	17.59	18.23	18.09	18.72	19.20	13.78	14.42	14.28	14.92	15.39
	8H	17.84	18.42	18.36	18.93	19.42	14.00	14.58	14.52	15.09	15.58
	12H	18.05	18.56	18.56	19.05	19.61	14.18	14.69	14.69	15.18	15.75
12H	4H	16.94	17.63	17.42	18.11	18.58	13.24	13.93	13.72	14.41	14.88
	6H	17.57	18.15	18.09	18.66	19.15	13.85	14.42	14.36	14.93	15.42
	8H	17.86	18.37	18.37	18.86	19.42	14.12	14.63	14.63	15.12	15.69