

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: P930485

Luminaire Tested: DFN2DS-PN2F0-050DS940-FLL

Issue Date: 11/20/2024

**Test Information**

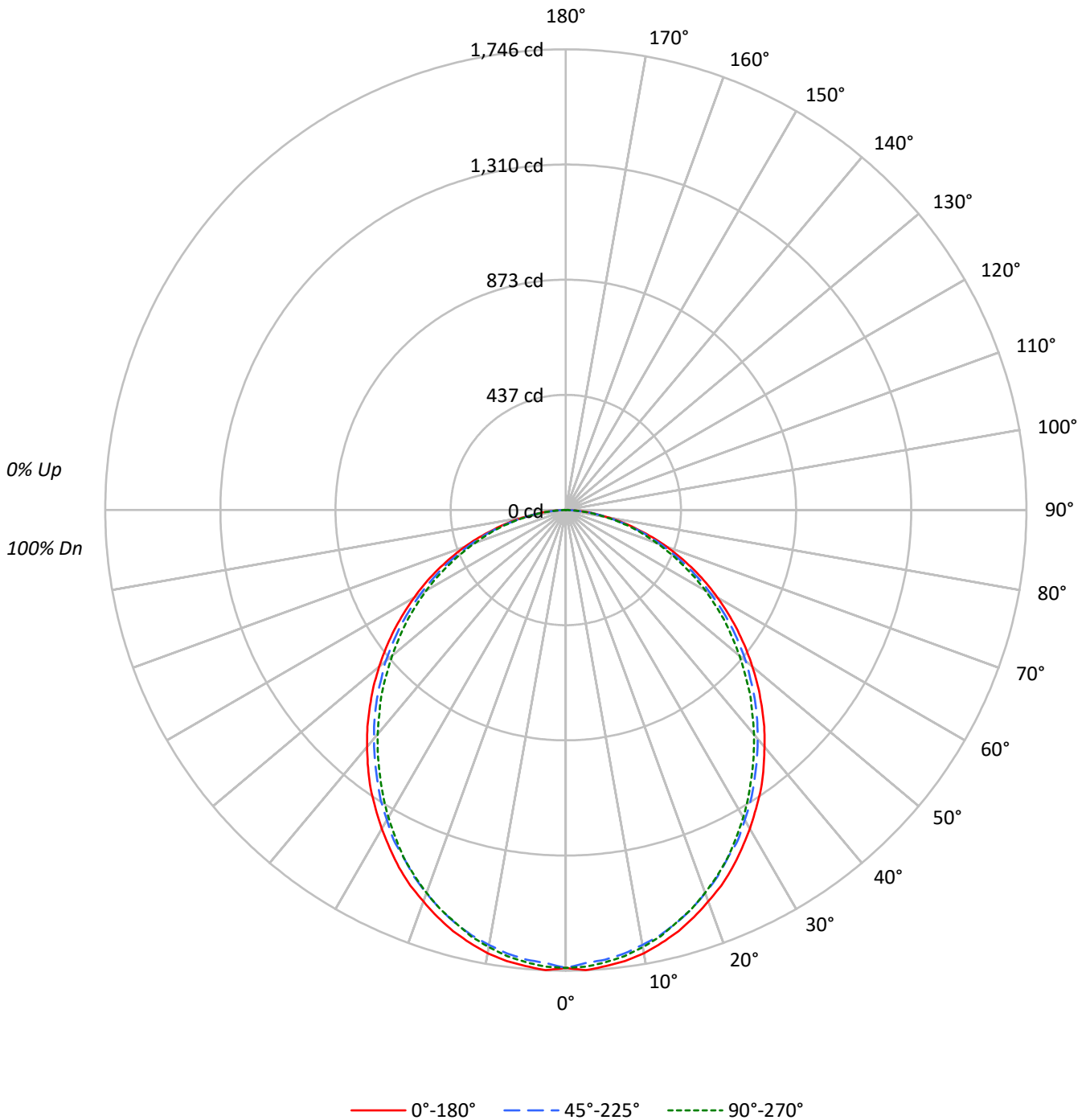
Test Method: LM-79-2019  
Report Number: P930485  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-PN2F0-050DS940-FLL  
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4415.4 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 54  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9821  
Total Harmonic Distortion (THDi): 0.08  
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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3759	3759	3759
5°	3773	3719	3741
10°	3751	3681	3699
15°	3704	3633	3630
20°	3638	3562	3558
25°	3573	3474	3474
30°	3489	3393	3364
35°	3411	3296	3247
40°	3313	3199	3138
45°	3215	3103	3026
50°	3109	3003	2896
55°	3000	2886	2779
60°	2877	2747	2646
65°	2745	2609	2489
70°	2579	2441	2325
75°	2346	2248	2193
80°	2083	2018	1915
85°	1697	1618	1451

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3215 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.3	3.7
10°-20°	459.6	10.4
20°-30°	675.4	15.3
30°-40°	784.4	17.8
40°-50°	783.4	17.7
50°-60°	683.1	15.5
60°-70°	505.0	11.4
70°-80°	285.7	6.5
80°-90°	75.4	1.7
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°	1298.3	29.4
0°-40°	2082.7	47.2
0°-60°	3549.3	80.4
0°-90°	4415.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4415.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1735	1735	1735	1735	1735	
5°	1735	1729	1710	1724	1721	165
15°	1652	1642	1620	1627	1619	465
25°	1495	1482	1454	1457	1454	688
35°	1290	1273	1247	1236	1228	806
45°	1050	1038	1013	995	988	810
55°	794	784	764	744	736	710
65°	536	526	509	494	486	530
75°	280	277	269	259	262	299
85°	68	67	65	60	58	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1735.4	1735.4	1735.4	1735.4	1735.4
2.5°	1745.5	1737.2	1718.8	1735.4	1732.3
5°	1735.4	1728.9	1710.4	1723.7	1720.6
7.5°	1723.7	1713.8	1695.4	1708.9	1705.5
10°	1705.5	1693.8	1673.8	1687.0	1682.1
12.5°	1680.3	1670.4	1650.5	1658.8	1655.4
15°	1652.0	1642.1	1620.3	1627.1	1618.7
17.5°	1616.9	1607.0	1585.3	1593.6	1585.3
20°	1578.6	1568.7	1545.3	1550.2	1543.7
22.5°	1540.3	1525.2	1503.5	1503.5	1500.1
25°	1495.2	1481.9	1453.5	1456.7	1453.5
27.5°	1445.0	1433.4	1411.8	1406.8	1398.5
30°	1395.1	1381.7	1356.7	1351.7	1345.0
32.5°	1341.7	1331.8	1305.0	1294.9	1288.2
35°	1289.9	1273.3	1246.6	1236.5	1228.2
37.5°	1231.5	1216.5	1189.7	1178.1	1169.8
40°	1171.6	1158.1	1131.3	1116.4	1109.7
42.5°	1113.1	1099.7	1073.1	1056.2	1046.3
45°	1049.7	1038.0	1012.9	994.7	987.9
47.5°	987.9	976.2	949.5	931.1	921.2
50°	922.8	914.5	891.1	867.7	859.4
52.5°	859.4	847.7	826.1	807.7	796.0
55°	794.4	784.3	764.3	744.3	736.0
57.5°	729.2	720.9	699.1	679.2	672.4
60°	664.1	657.6	634.2	615.7	610.8
62.5°	600.8	589.1	572.4	555.7	549.0
65°	535.7	525.7	509.0	494.0	485.6
67.5°	469.0	460.5	445.6	434.0	427.2
70°	407.2	400.5	385.4	373.7	367.2
72.5°	343.9	337.1	328.8	317.1	312.1
75°	280.3	277.1	268.6	258.7	262.1
77.5°	223.6	216.8	213.5	208.5	203.6
80°	167.0	165.2	161.8	156.9	153.5
82.5°	113.5	113.5	111.9	105.2	105.2
85°	68.3	66.7	65.1	60.0	58.4
87.5°	30.1	26.8	23.4	18.4	16.7
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	15.88	17.49	16.25	17.81	18.12	15.44	17.05	15.80	17.36	17.68
	3H	17.63	19.09	18.01	19.41	19.77	17.14	18.60	17.52	18.92	19.28
	4H	18.28	19.65	18.68	20.00	20.37	17.78	19.15	18.18	19.50	19.88
	6H	18.75	20.02	19.16	20.38	20.77	18.25	19.52	18.66	19.88	20.27
	8H	18.89	20.10	19.32	20.49	20.89	18.39	19.60	18.81	19.99	20.39
	12H	18.98	20.14	19.41	20.52	20.95	18.47	19.63	18.90	20.01	20.44
4H	2H	16.44	17.81	16.84	18.16	18.54	16.09	17.46	16.49	17.81	18.18
	3H	18.42	19.56	18.83	19.96	20.36	18.01	19.16	18.42	19.56	19.96
	4H	19.19	20.23	19.63	20.64	21.08	18.77	19.81	19.20	20.22	20.66
	6H	19.79	20.70	20.25	21.14	21.59	19.36	20.26	19.81	20.70	21.16
	8H	19.98	20.83	20.44	21.27	21.74	19.54	20.39	20.00	20.83	21.30
	12H	20.11	20.87	20.59	21.35	21.82	19.66	20.42	20.14	20.90	21.37
8H	4H	19.47	20.31	19.93	20.76	21.22	19.09	19.94	19.55	20.38	20.85
	6H	20.18	20.89	20.68	21.37	21.85	19.80	20.50	20.29	20.99	21.47
	8H	20.44	21.07	20.95	21.58	22.07	20.05	20.68	20.56	21.19	21.67
	12H	20.64	21.20	21.15	21.69	22.25	20.23	20.79	20.74	21.28	21.84
12H	4H	19.49	20.25	19.97	20.73	21.20	19.13	19.89	19.61	20.37	20.83
	6H	20.23	20.86	20.74	21.37	21.85	19.86	20.49	20.37	21.00	21.48
	8H	20.54	21.10	21.05	21.59	22.15	20.16	20.72	20.67	21.21	21.77