

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: P930450

Luminaire Tested: DFN2DS-PN2F0-030DS940-RLL

Issue Date: 11/20/2024

**Test Information**

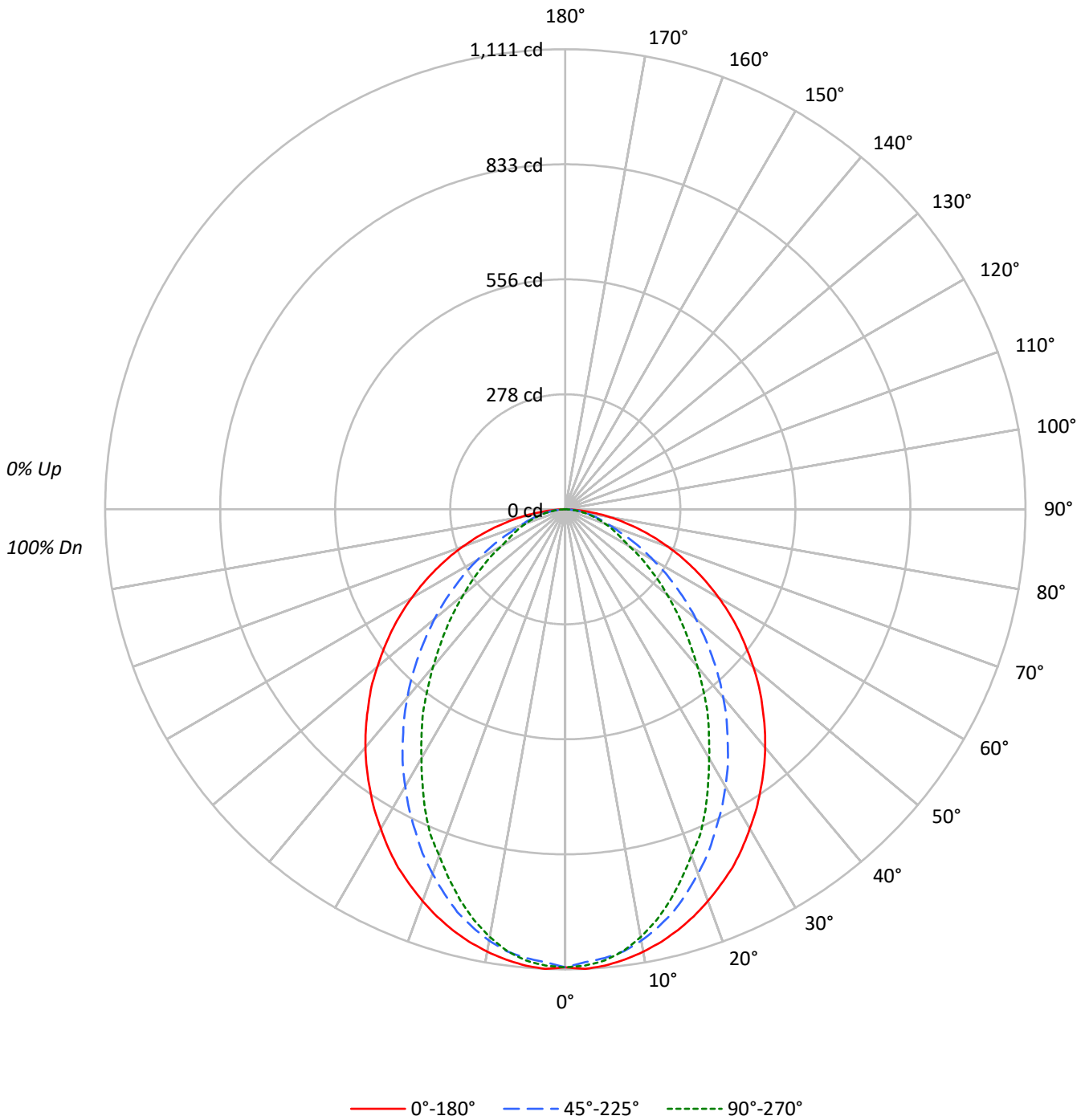
Test Method: LM-79-2019  
Report Number: P930450  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-PN2F0-030DS940-RLL  
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2274.6 lumens  
Efficiency: N/A  
Efficacy: 73.8 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°	2395	2395	2395
5°	2405	2365	2378
10°	2386	2327	2307
15°	2359	2258	2193
20°	2321	2159	2051
25°	2282	2048	1913
30°	2228	1932	1737
35°	2176	1807	1582
40°	2122	1678	1404
45°	2060	1533	1241
50°	1997	1386	1083
55°	1931	1228	930
60°	1855	1062	772
65°	1770	892	703
70°	1667	735	646
75°	1541	670	603
80°	1361	599	550
85°	1069	472	472

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2060 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.7	4.6
10°-20°	284.6	12.5
20°-30°	399.5	17.6
30°-40°	435.5	19.1
40°-50°	400.3	17.6
50°-60°	314.3	13.8
60°-70°	204.6	9.0
70°-80°	105.3	4.6
80°-90°	26.9	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°	787.7	34.6
0°-40°	1223.2	53.8
0°-60°	1937.8	85.2
0°-90°	2274.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1106	1101	1088	1097	1094	105
15°	1052	1041	1007	988	978	296
25°	955	923	857	816	801	439
35°	823	772	684	621	598	515
45°	673	606	500	429	405	519
55°	511	433	325	265	246	457
65°	345	264	174	140	137	342
75°	184	114	80	73	72	195
85°	43	22	19	19	19	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1106.0	1106.0	1106.0	1106.0	1106.0
2.5°	1111.0	1106.0	1094.9	1105.0	1103.0
5°	1106.0	1101.0	1088.0	1097.0	1093.9
7.5°	1097.0	1091.0	1077.0	1080.9	1075.9
10°	1084.9	1078.0	1058.0	1054.9	1049.0
12.5°	1070.0	1060.9	1033.9	1027.9	1016.9
15°	1051.9	1040.9	1006.9	987.9	977.9
17.5°	1030.9	1014.9	972.8	950.9	934.8
20°	1006.9	986.8	936.8	911.9	889.8
22.5°	980.9	957.8	899.8	865.8	850.8
25°	954.9	922.8	856.8	815.7	800.7
27.5°	923.8	889.8	816.7	769.7	746.6
30°	890.8	852.8	772.7	721.7	694.6
32.5°	858.7	812.7	730.7	670.6	645.5
35°	822.8	771.7	683.6	620.6	598.5
37.5°	787.7	732.6	639.6	570.4	545.5
40°	750.7	690.7	593.5	522.4	496.5
42.5°	712.6	648.7	547.5	473.4	448.4
45°	672.7	605.5	500.5	429.3	405.3
47.5°	634.6	563.6	455.5	384.3	362.3
50°	592.6	521.5	411.4	342.3	321.3
52.5°	551.4	476.4	369.4	303.3	284.3
55°	511.4	433.3	325.2	265.3	246.3
57.5°	470.4	390.3	286.3	230.2	214.2
60°	428.3	348.3	245.2	194.2	178.2
62.5°	387.4	307.3	210.2	162.2	154.2
65°	345.3	264.2	174.1	140.1	137.1
67.5°	305.3	224.2	140.1	123.1	120.1
70°	263.2	185.2	116.0	106.1	102.0
72.5°	223.2	149.1	97.0	89.1	87.1
75°	184.1	114.1	80.1	73.1	72.1
77.5°	145.1	81.0	63.1	59.1	57.0
80°	109.1	58.1	48.0	44.1	44.1
82.5°	76.0	39.1	33.0	31.0	31.0
85°	43.0	21.9	19.0	19.0	19.0
87.5°	16.1	7.9	7.9	7.0	7.0
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	14.27	15.79	14.63	16.10	16.42	10.23	11.75	10.59	12.07	12.38
	3H	16.03	17.40	16.41	17.73	18.09	11.50	12.86	11.87	13.19	13.55
	4H	16.70	17.98	17.10	18.33	18.71	12.00	13.28	12.40	13.63	14.00
	6H	17.19	18.37	17.60	18.74	19.13	12.38	13.56	12.79	13.93	14.32
	8H	17.36	18.48	17.78	18.87	19.27	12.50	13.63	12.93	14.02	14.42
	12H	17.46	18.54	17.89	18.92	19.35	12.58	13.66	13.01	14.04	14.47
4H	2H	14.37	15.65	14.77	16.00	16.38	10.93	12.21	11.32	12.55	12.93
	3H	16.31	17.37	16.72	17.77	18.17	12.37	13.43	12.78	13.83	14.23
	4H	17.06	18.01	17.49	18.43	18.87	12.97	13.92	13.40	14.34	14.78
	6H	17.65	18.48	18.11	18.92	19.38	13.46	14.29	13.91	14.73	15.19
	8H	17.86	18.64	18.33	19.08	19.55	13.62	14.40	14.08	14.84	15.31
	12H	18.02	18.71	18.50	19.19	19.66	13.74	14.43	14.22	14.91	15.38
8H	4H	17.08	17.86	17.54	18.30	18.77	13.32	14.10	13.79	14.54	15.01
	6H	17.72	18.36	18.21	18.85	19.33	13.91	14.55	14.41	15.04	15.52
	8H	17.97	18.54	18.48	19.05	19.54	14.13	14.71	14.64	15.22	15.70
	12H	18.17	18.68	18.68	19.17	19.74	14.31	14.82	14.82	15.31	15.88
12H	4H	17.06	17.76	17.55	18.24	18.71	13.37	14.06	13.85	14.54	15.01
	6H	17.70	18.28	18.21	18.79	19.27	13.97	14.55	14.49	15.06	15.55
	8H	17.98	18.49	18.49	18.99	19.55	14.25	14.76	14.76	15.25	15.81