

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: P930716

Luminaire Tested: DFN2DS-PN4F0-080DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930716
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-PN4F0-080DS930-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

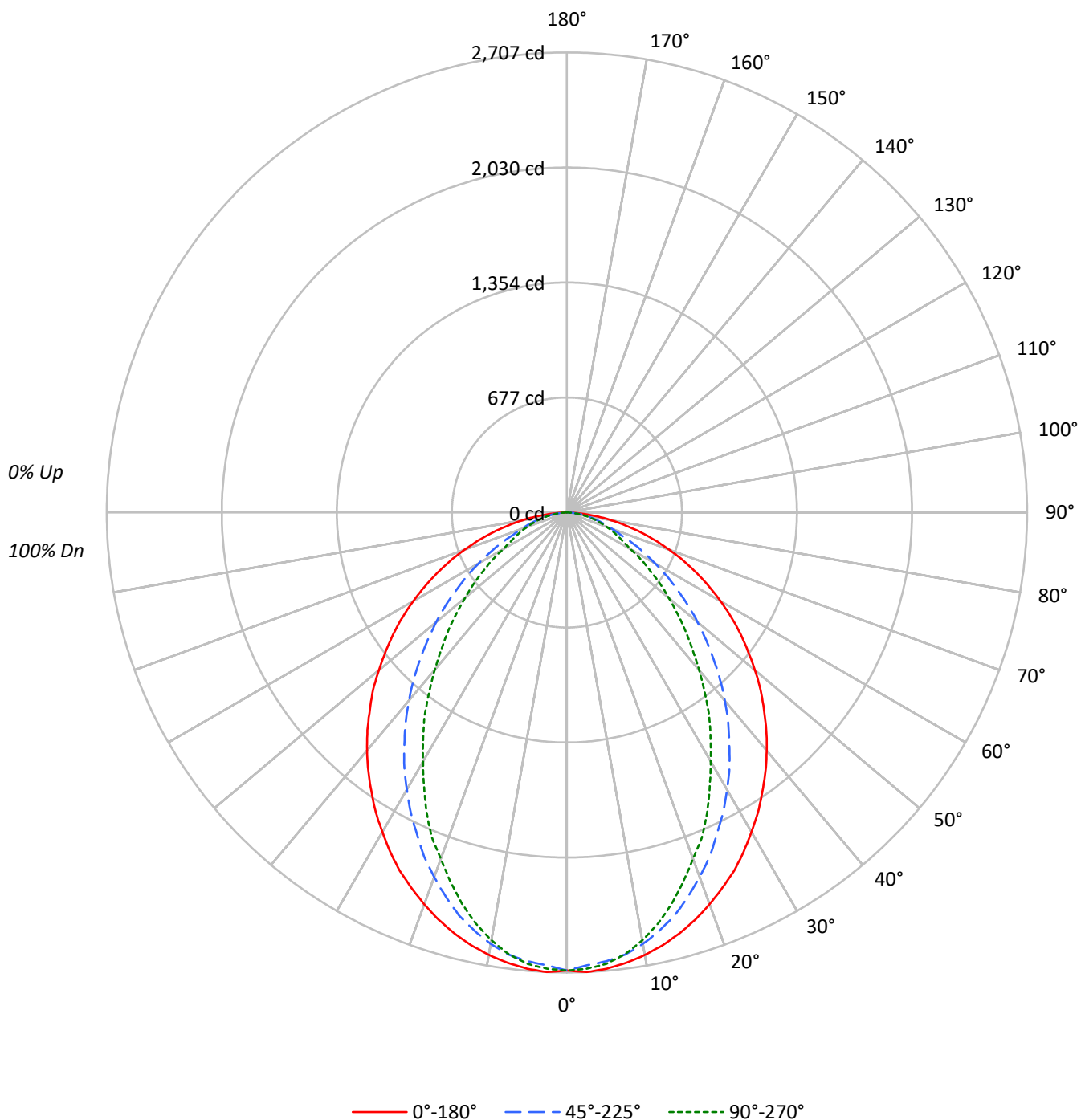
Lumens per Lamp: N/A
Luminaire Lumens: 5542.0 lumens
Efficiency: N/A
Efficacy: 67.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 81.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1967	1967	1967
5°	1975	1942	1953
10°	1959	1911	1894
15°	1937	1854	1801
20°	1906	1773	1684
25°	1874	1681	1571
30°	1829	1587	1426
35°	1786	1484	1299
40°	1743	1378	1153
45°	1692	1259	1020
50°	1639	1138	889
55°	1586	1009	764
60°	1524	872	634
65°	1453	733	577
70°	1369	604	531
75°	1265	550	496
80°	1117	492	451
85°	878	388	388

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1692 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.6	4.6
10°-20°	693.3	12.5
20°-30°	973.4	17.6
30°-40°	1061.0	19.1
40°-50°	975.2	17.6
50°-60°	765.9	13.8
60°-70°	498.5	9.0
70°-80°	256.6	4.6
80°-90°	65.5	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°	1919.2	34.6
0°-40°	2980.3	53.8
0°-60°	4721.4	85.2
0°-90°	5542.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5542.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2695	2695	2695	2695	2695	
5°	2695	2683	2651	2673	2666	256
15°	2563	2536	2453	2407	2383	722
25°	2326	2248	2088	1988	1951	1070
35°	2005	1880	1666	1512	1458	1255
45°	1639	1475	1219	1046	988	1266
55°	1246	1056	792	646	600	1113
65°	841	644	424	342	334	834
75°	449	278	195	178	176	475
85°	105	54	46	46	46	126
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2694.7	2694.7	2694.7	2694.7	2694.7
2.5°	2706.9	2694.7	2667.8	2692.4	2687.5
5°	2694.7	2682.6	2650.7	2672.7	2665.5
7.5°	2672.7	2658.2	2624.1	2633.7	2621.4
10°	2643.5	2626.4	2577.8	2570.3	2555.8
12.5°	2607.0	2585.0	2519.0	2504.5	2477.6
15°	2563.0	2536.1	2453.3	2407.0	2382.7
17.5°	2511.7	2472.7	2370.3	2316.7	2277.6
20°	2453.3	2404.4	2282.6	2221.8	2167.9
22.5°	2389.9	2333.8	2192.3	2109.5	2073.0
25°	2326.5	2248.4	2087.5	1987.6	1950.9
27.5°	2250.9	2167.9	1989.9	1875.3	1819.2
30°	2170.5	2077.6	1882.6	1758.4	1692.3
32.5°	2092.3	1980.1	1780.4	1633.9	1572.9
35°	2004.7	1880.2	1665.7	1512.1	1458.2
37.5°	1919.2	1785.0	1558.4	1389.9	1329.1
40°	1829.0	1682.8	1446.1	1272.9	1209.5
42.5°	1736.4	1580.4	1334.0	1153.5	1092.6
45°	1638.8	1475.3	1219.4	1046.1	987.6
47.5°	1546.2	1373.1	1109.7	936.4	882.8
50°	1443.7	1270.7	1002.4	833.9	782.9
52.5°	1343.6	1160.6	899.8	739.0	692.7
55°	1246.1	1055.9	792.5	646.3	600.0
57.5°	1146.2	951.1	697.6	561.0	521.8
60°	1043.7	848.7	597.4	473.2	434.2
62.5°	943.9	748.7	512.1	395.1	375.7
65°	841.4	643.7	424.3	341.6	334.0
67.5°	743.9	546.2	341.6	299.8	292.7
70°	641.4	451.3	282.8	258.4	248.7
72.5°	543.8	363.2	236.5	217.1	212.1
75°	448.7	277.9	195.1	178.0	175.7
77.5°	353.7	197.4	153.7	143.8	139.0
80°	265.7	141.6	117.0	107.3	107.3
82.5°	185.2	95.2	80.4	75.6	75.6
85°	104.8	53.5	46.3	46.3	46.3
87.5°	39.0	19.4	19.4	17.1	17.1
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	13.59	15.11	13.95	15.42	15.73	9.55	11.07	9.91	11.38	11.70
	3H	15.35	16.72	15.73	17.04	17.41	10.81	12.18	11.19	12.50	12.87
	4H	16.02	17.30	16.42	17.65	18.02	11.31	12.59	11.71	12.94	13.32
	6H	16.51	17.69	16.92	18.06	18.45	11.69	12.88	12.11	13.24	13.64
	8H	16.67	17.80	17.10	18.19	18.59	11.82	12.94	12.24	13.33	13.74
	12H	16.77	17.85	17.20	18.23	18.66	11.90	12.98	12.33	13.36	13.79
4H	2H	13.69	14.97	14.09	15.32	15.70	10.24	11.52	10.64	11.87	12.25
	3H	15.62	16.69	16.03	17.09	17.49	11.68	12.75	12.10	13.15	13.55
	4H	16.37	17.33	16.80	17.74	18.18	12.28	13.24	12.72	13.66	14.09
	6H	16.96	17.80	17.42	18.24	18.70	12.77	13.60	13.23	14.05	14.51
	8H	17.18	17.96	17.64	18.40	18.87	12.93	13.71	13.40	14.16	14.62
	12H	17.33	18.03	17.81	18.50	18.98	13.05	13.75	13.53	14.22	14.69
8H	4H	16.40	17.17	16.86	17.62	18.08	12.64	13.42	13.10	13.86	14.33
	6H	17.03	17.68	17.53	18.17	18.64	13.22	13.87	13.72	14.36	14.84
	8H	17.28	17.86	17.80	18.37	18.86	13.45	14.02	13.96	14.53	15.02
	12H	17.49	18.00	18.00	18.49	19.05	13.62	14.13	14.13	14.63	15.19
12H	4H	16.38	17.08	16.86	17.55	18.02	12.68	13.38	13.16	13.85	14.32
	6H	17.01	17.59	17.53	18.10	18.59	13.29	13.86	13.80	14.37	14.86
	8H	17.30	17.81	17.81	18.30	18.87	13.56	14.07	14.07	14.56	15.13