

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: P930036

Luminaire Tested: DFN2DS-4P4F0-080DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930036
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-4P4F0-080DS940-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

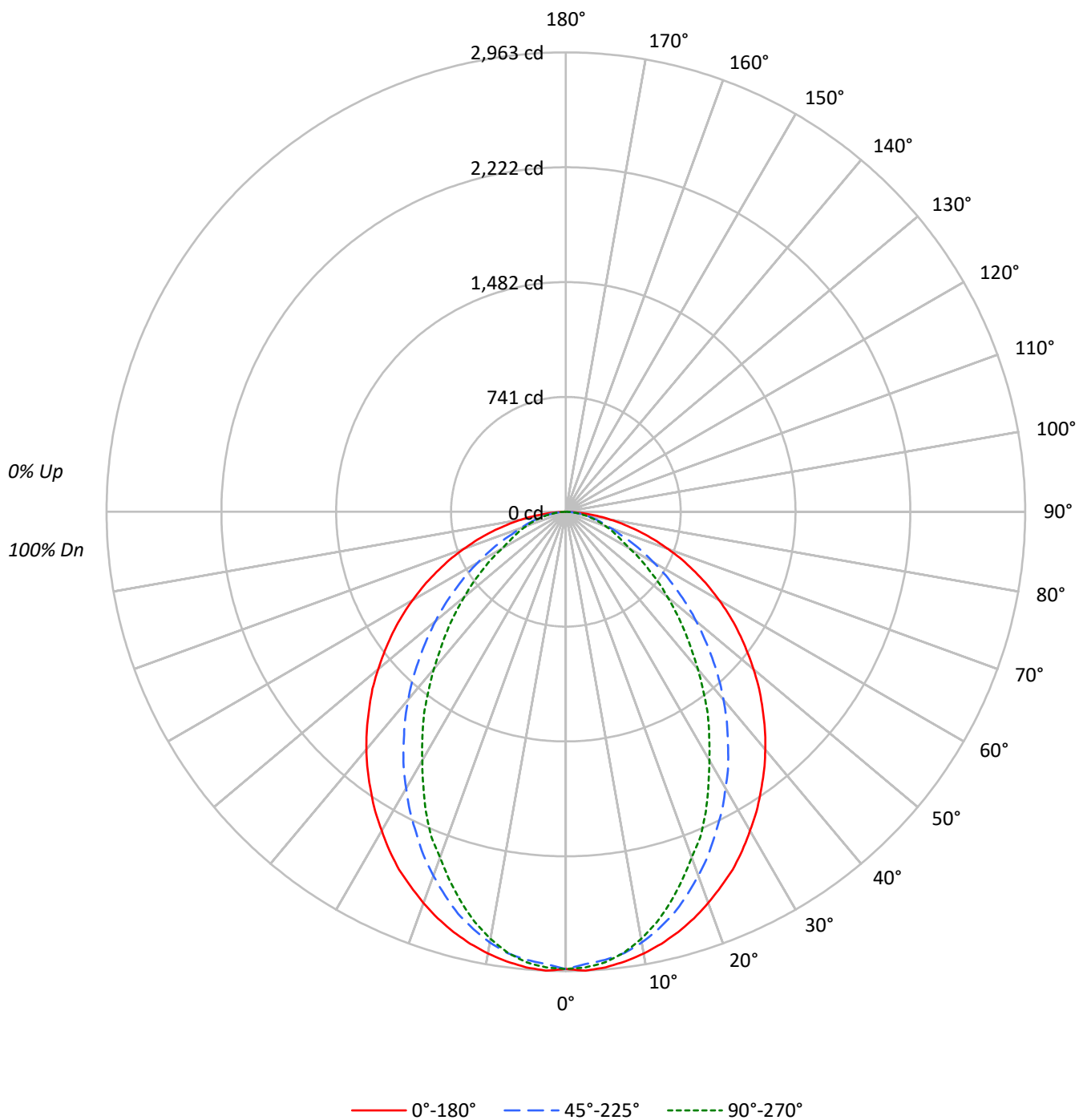
Lumens per Lamp: N/A
Luminaire Lumens: 6065.6 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 86.3
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1913	1913	1913
5°	1921	1889	1900
10°	1906	1859	1843
15°	1884	1803	1751
20°	1854	1725	1638
25°	1823	1635	1528
30°	1780	1543	1387
35°	1738	1444	1264
40°	1695	1340	1121
45°	1646	1224	992
50°	1595	1107	865
55°	1543	981	743
60°	1482	848	617
65°	1414	713	561
70°	1332	587	516
75°	1231	535	482
80°	1086	478	439
85°	854	377	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1646 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.4	4.6
10°-20°	758.8	12.5
20°-30°	1065.3	17.6
30°-40°	1161.3	19.1
40°-50°	1067.3	17.6
50°-60°	838.3	13.8
60°-70°	545.6	9.0
70°-80°	280.9	4.6
80°-90°	71.7	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°	2100.6	34.6
0°-40°	3261.8	53.8
0°-60°	5167.4	85.2
0°-90°	6065.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6065.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2949	2949	2949	2949	2949	
5°	2949	2936	2901	2925	2917	280
15°	2805	2776	2685	2634	2608	790
25°	2546	2461	2285	2175	2135	1171
35°	2194	2058	1823	1655	1596	1373
45°	1794	1615	1335	1145	1081	1385
55°	1364	1156	867	707	657	1219
65°	921	704	464	374	366	913
75°	491	304	214	195	192	519
85°	115	59	51	51	51	138
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2949.3	2949.3	2949.3	2949.3	2949.3
2.5°	2962.6	2949.3	2919.9	2946.7	2941.4
5°	2949.3	2936.0	2901.1	2925.2	2917.3
7.5°	2925.2	2909.3	2872.0	2882.5	2869.1
10°	2893.2	2874.6	2821.3	2813.1	2797.2
12.5°	2853.3	2829.2	2757.0	2741.1	2711.7
15°	2805.2	2775.7	2685.1	2634.4	2607.8
17.5°	2749.1	2706.3	2594.2	2535.6	2492.8
20°	2685.1	2631.6	2498.2	2431.7	2372.7
22.5°	2615.7	2554.2	2399.4	2308.8	2268.8
25°	2546.3	2460.8	2284.7	2175.4	2135.2
27.5°	2463.6	2372.7	2177.9	2052.5	1991.0
30°	2375.6	2273.9	2060.4	1924.5	1852.2
32.5°	2290.0	2167.2	1948.6	1788.3	1721.5
35°	2194.1	2057.8	1823.1	1654.9	1596.0
37.5°	2100.6	1953.7	1705.6	1521.2	1454.7
40°	2001.8	1841.8	1582.7	1393.2	1323.8
42.5°	1900.4	1729.7	1460.0	1262.4	1195.8
45°	1793.6	1614.7	1334.6	1144.9	1080.9
47.5°	1692.3	1502.8	1214.5	1024.8	966.2
50°	1580.1	1390.7	1097.1	912.7	856.9
52.5°	1470.6	1270.3	984.9	808.8	758.1
55°	1363.8	1155.7	867.4	707.4	656.7
57.5°	1254.5	1041.0	763.5	614.0	571.1
60°	1142.3	928.8	653.8	517.9	475.2
62.5°	1033.0	819.5	560.4	432.4	411.2
65°	920.9	704.5	464.4	373.8	365.5
67.5°	814.1	597.8	373.8	328.2	320.3
70°	702.0	493.9	309.5	282.9	272.1
72.5°	595.2	397.6	258.9	237.6	232.2
75°	491.0	304.2	213.5	194.8	192.3
77.5°	387.1	216.0	168.2	157.4	152.1
80°	290.8	154.9	128.0	117.5	117.5
82.5°	202.8	104.2	88.0	82.7	82.7
85°	114.7	58.6	50.7	50.7	50.7
87.5°	42.7	21.2	21.2	18.7	18.7
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	13.49	15.01	13.85	15.32	15.64	9.45	10.97	9.81	11.29	11.60
	3H	15.25	16.62	15.63	16.95	17.31	10.72	12.08	11.09	12.41	12.77
	4H	15.92	17.20	16.32	17.55	17.93	11.22	12.50	11.62	12.85	13.22
	6H	16.41	17.59	16.82	17.96	18.35	11.60	12.78	12.01	13.15	13.54
	8H	16.57	17.70	17.00	18.09	18.49	11.72	12.85	12.15	13.24	13.64
	12H	16.68	17.76	17.11	18.14	18.57	11.80	12.88	12.23	13.26	13.69
4H	2H	13.59	14.87	13.99	15.22	15.60	10.15	11.43	10.55	11.77	12.15
	3H	15.53	16.59	15.94	16.99	17.39	11.59	12.65	12.00	13.05	13.45
	4H	16.28	17.23	16.71	17.65	18.09	12.19	13.14	12.62	13.56	14.00
	6H	16.87	17.70	17.32	18.14	18.60	12.68	13.51	13.13	13.95	14.41
	8H	17.08	17.86	17.55	18.30	18.77	12.84	13.62	13.30	14.06	14.53
	12H	17.24	17.93	17.72	18.41	18.88	12.96	13.65	13.44	14.13	14.60
8H	4H	16.30	17.08	16.76	17.52	17.99	12.54	13.32	13.00	13.76	14.23
	6H	16.94	17.58	17.43	18.07	18.55	13.13	13.77	13.62	14.26	14.74
	8H	17.19	17.76	17.70	18.27	18.76	13.35	13.93	13.86	14.44	14.92
	12H	17.39	17.90	17.90	18.39	18.96	13.53	14.04	14.04	14.53	15.09
12H	4H	16.28	16.98	16.77	17.46	17.93	12.58	13.28	13.07	13.76	14.23
	6H	16.92	17.50	17.43	18.01	18.49	13.19	13.77	13.71	14.28	14.77
	8H	17.20	17.71	17.71	18.20	18.77	13.46	13.97	13.97	14.47	15.03