

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: P931524

Luminaire Tested: DFN2DS-TR4F0-080DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931524
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-TR4F0-080DS927-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

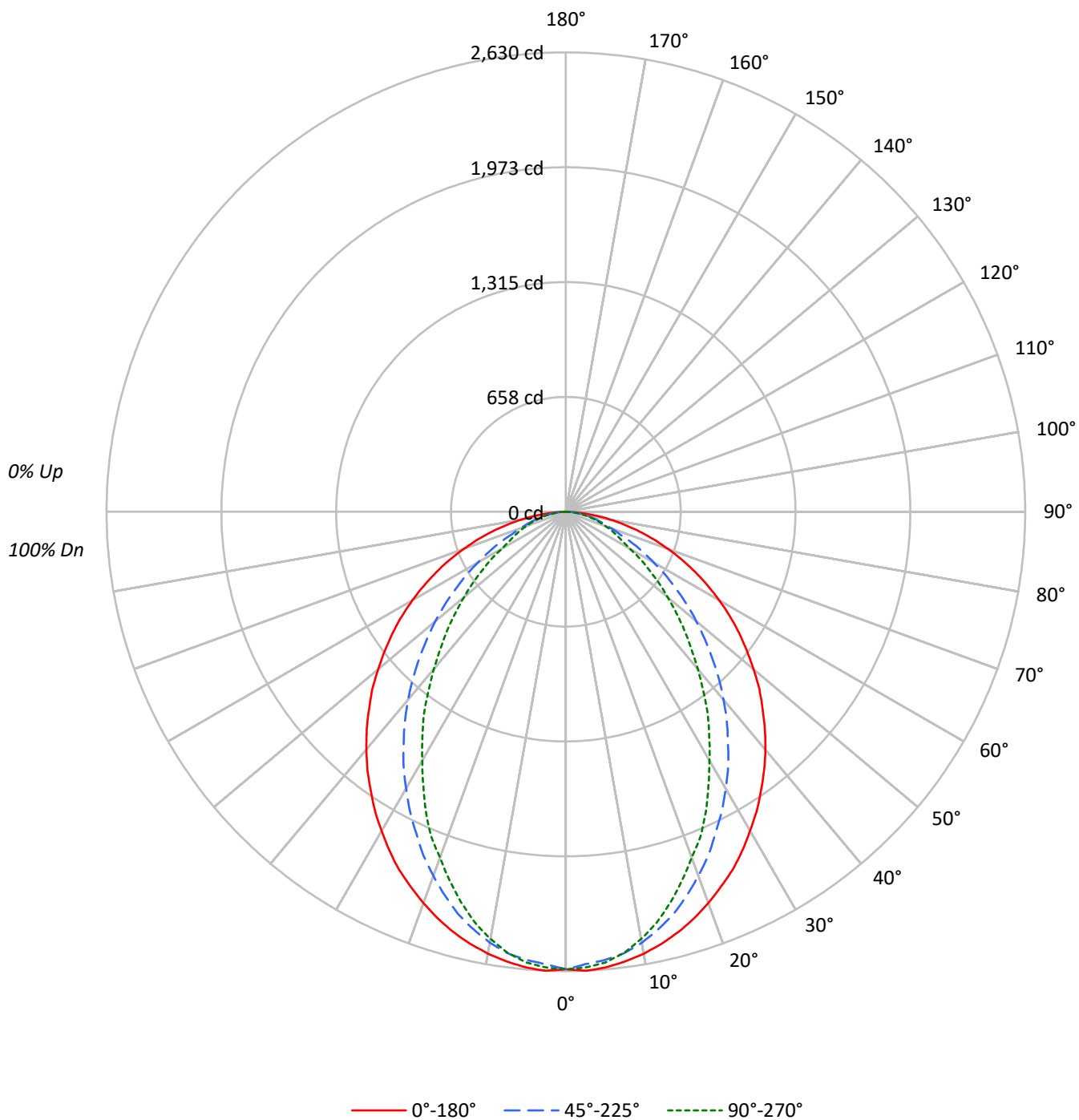
Lumens per Lamp: N/A
Luminaire Lumens: 5385.6 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 81.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
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°	2080	2080	2080
5°	2088	2054	2066
10°	2072	2021	2003
15°	2048	1961	1904
20°	2016	1875	1781
25°	1982	1778	1662
30°	1935	1678	1509
35°	1889	1570	1374
40°	1843	1457	1219
45°	1789	1331	1078
50°	1734	1204	940
55°	1677	1067	808
60°	1611	922	670
65°	1537	775	610
70°	1448	638	561
75°	1338	582	524
80°	1181	520	477
85°	929	410	410

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1789 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.4	4.6
10°-20°	673.7	12.5
20°-30°	945.9	17.6
30°-40°	1031.1	19.1
40°-50°	947.7	17.6
50°-60°	744.3	13.8
60°-70°	484.4	9.0
70°-80°	249.4	4.6
80°-90°	63.7	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°	1865.1	34.6
0°-40°	2896.2	53.8
0°-60°	4588.1	85.2
0°-90°	5385.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5385.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2619	2619	2619	2619	2619	
5°	2619	2607	2576	2597	2590	248
15°	2491	2464	2384	2339	2315	702
25°	2261	2185	2028	1932	1896	1040
35°	1948	1827	1619	1469	1417	1219
45°	1593	1434	1185	1016	960	1230
55°	1211	1026	770	628	583	1082
65°	818	626	412	332	325	811
75°	436	270	190	173	171	461
85°	102	52	45	45	45	122
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2618.7	2618.7	2618.7	2618.7	2618.7
2.5°	2630.5	2618.7	2592.5	2616.4	2611.6
5°	2618.7	2606.9	2575.9	2597.3	2590.2
7.5°	2597.3	2583.2	2550.0	2559.3	2547.5
10°	2568.9	2552.3	2505.0	2497.7	2483.6
12.5°	2533.4	2512.1	2447.9	2433.8	2407.7
15°	2490.7	2464.5	2384.1	2339.1	2315.4
17.5°	2440.9	2402.9	2303.4	2251.3	2213.3
20°	2384.1	2336.6	2218.2	2159.1	2106.7
22.5°	2322.5	2267.9	2130.4	2049.9	2014.5
25°	2260.8	2185.0	2028.5	1931.5	1895.8
27.5°	2187.4	2106.7	1933.7	1822.4	1767.8
30°	2109.3	2019.0	1829.4	1708.7	1644.6
32.5°	2033.3	1924.2	1730.1	1587.8	1528.5
35°	1948.1	1827.1	1618.7	1469.4	1417.0
37.5°	1865.1	1734.6	1514.4	1350.7	1291.6
40°	1777.4	1635.3	1405.2	1237.0	1175.4
42.5°	1687.4	1535.8	1296.3	1120.9	1061.8
45°	1592.6	1433.7	1185.0	1016.5	959.7
47.5°	1502.6	1334.4	1078.4	909.9	857.9
50°	1402.9	1234.8	974.1	810.4	760.8
52.5°	1305.7	1127.9	874.4	718.1	673.1
55°	1210.9	1026.1	770.1	628.1	583.1
57.5°	1113.9	924.3	677.9	545.1	507.1
60°	1014.2	824.7	580.5	459.8	421.9
62.5°	917.2	727.6	497.6	384.0	365.1
65°	817.7	625.5	412.3	331.9	324.6
67.5°	722.9	530.8	331.9	291.4	284.4
70°	623.3	438.5	274.8	251.1	241.6
72.5°	528.5	353.0	229.8	211.0	206.2
75°	436.0	270.1	189.6	173.0	170.8
77.5°	343.7	191.8	149.4	139.8	135.0
80°	258.2	137.6	113.7	104.3	104.3
82.5°	180.0	92.5	78.2	73.4	73.4
85°	101.9	52.0	45.0	45.0	45.0
87.5°	37.9	18.8	18.8	16.6	16.6
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	13.78	15.30	14.14	15.62	15.93	9.74	11.26	10.11	11.58	11.89
	3H	15.55	16.91	15.92	17.24	17.60	11.01	12.37	11.38	12.70	13.06
	4H	16.21	17.49	16.61	17.84	18.22	11.51	12.79	11.91	13.14	13.52
	6H	16.70	17.88	17.11	18.25	18.64	11.89	13.07	12.30	13.44	13.83
	8H	16.87	17.99	17.29	18.38	18.78	12.01	13.14	12.44	13.53	13.93
	12H	16.97	18.05	17.40	18.43	18.86	12.09	13.17	12.52	13.55	13.98
4H	2H	13.88	15.16	14.28	15.51	15.89	10.44	11.72	10.84	12.07	12.44
	3H	15.82	16.88	16.23	17.28	17.68	11.88	12.94	12.29	13.34	13.74
	4H	16.57	17.52	17.00	17.94	18.38	12.48	13.43	12.91	13.85	14.29
	6H	17.16	17.99	17.62	18.43	18.89	12.97	13.80	13.42	14.24	14.70
	8H	17.37	18.15	17.84	18.59	19.06	13.13	13.91	13.59	14.35	14.82
	12H	17.53	18.22	18.01	18.70	19.17	13.25	13.94	13.73	14.42	14.89
8H	4H	16.59	17.37	17.05	17.81	18.28	12.83	13.61	13.30	14.05	14.52
	6H	17.23	17.87	17.73	18.36	18.84	13.42	14.06	13.92	14.55	15.03
	8H	17.48	18.06	17.99	18.57	19.05	13.64	14.22	14.15	14.73	15.21
	12H	17.68	18.19	18.19	18.68	19.25	13.82	14.33	14.33	14.82	15.39
12H	4H	16.58	17.27	17.06	17.75	18.22	12.88	13.57	13.36	14.05	14.52
	6H	17.21	17.79	17.72	18.30	18.78	13.48	14.06	14.00	14.57	15.06
	8H	17.49	18.00	18.00	18.50	19.06	13.76	14.27	14.26	14.76	15.32