

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: P929896

Luminaire Tested: DFN2DS-4P3F0-050DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929896
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-4P3F0-050DS830-RLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

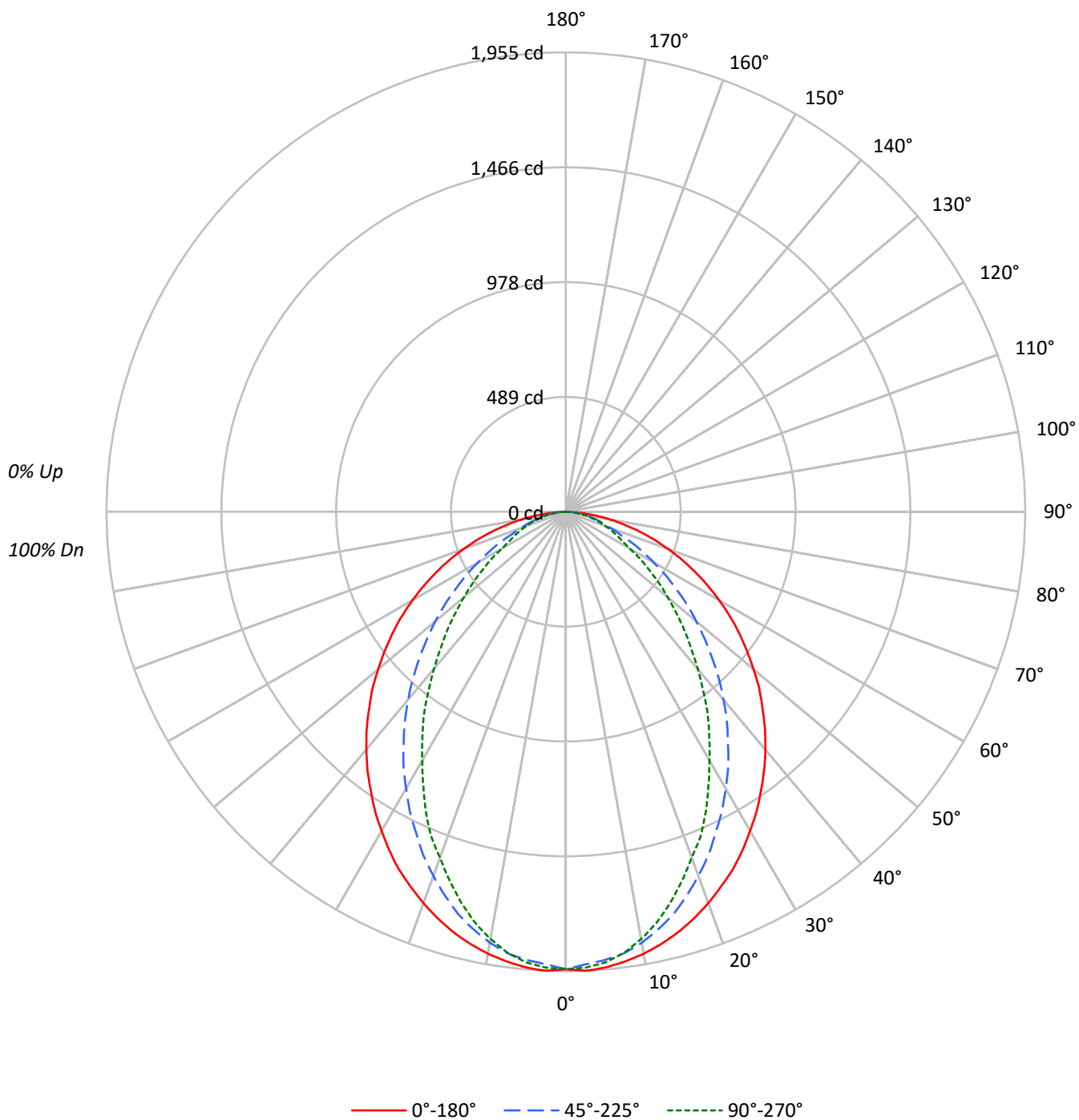
Lumens per Lamp: N/A
Luminaire Lumens: 4003.5 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.07' x L: 3.07' x H: 0')
CIE Type: Direct

Input Watts (W): 51.8
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°	2218	2218	2218
5°	2227	2191	2203
10°	2210	2155	2136
15°	2184	2091	2031
20°	2149	2000	1899
25°	2113	1896	1772
30°	2063	1790	1609
35°	2015	1674	1465
40°	1965	1554	1300
45°	1908	1420	1150
50°	1849	1284	1003
55°	1789	1137	861
60°	1719	983	715
65°	1639	826	651
70°	1544	681	598
75°	1427	620	559
80°	1260	555	509
85°	990	437	437

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1908 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.4	4.6
10°-20°	500.8	12.5
20°-30°	703.2	17.6
30°-40°	766.5	19.1
40°-50°	704.5	17.6
50°-60°	553.3	13.8
60°-70°	360.1	9.0
70°-80°	185.4	4.6
80°-90°	47.3	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°	1386.4	34.6
0°-40°	2152.9	53.8
0°-60°	3410.7	85.2
0°-90°	4003.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4003.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1947	1938	1915	1931	1926	185
15°	1852	1832	1772	1739	1721	522
25°	1681	1624	1508	1436	1409	773
35°	1448	1358	1203	1092	1053	906
45°	1184	1066	881	756	713	914
55°	900	763	572	467	433	804
65°	608	465	306	247	241	603
75°	324	201	141	129	127	343
85°	76	39	33	33	33	91
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1946.6	1946.6	1946.6	1946.6	1946.6
2.5°	1955.4	1946.6	1927.2	1944.9	1941.4
5°	1946.6	1937.9	1914.9	1930.7	1925.5
7.5°	1930.7	1920.3	1895.6	1902.6	1893.7
10°	1909.6	1897.3	1862.1	1856.8	1846.2
12.5°	1883.2	1867.4	1819.8	1809.3	1789.8
15°	1851.5	1832.1	1772.3	1738.8	1721.2
17.5°	1814.5	1786.3	1712.3	1673.6	1645.3
20°	1772.3	1737.0	1648.9	1605.0	1566.1
22.5°	1726.5	1685.9	1583.7	1523.9	1497.5
25°	1680.6	1624.2	1508.0	1435.8	1409.2
27.5°	1626.1	1566.1	1437.5	1354.7	1314.2
30°	1568.0	1500.9	1360.0	1270.2	1222.5
32.5°	1511.5	1430.4	1286.1	1180.3	1136.2
35°	1448.1	1358.3	1203.3	1092.2	1053.4
37.5°	1386.4	1289.5	1125.8	1004.1	960.2
40°	1321.2	1215.7	1044.6	919.6	873.8
42.5°	1254.4	1141.6	963.7	833.2	789.3
45°	1183.9	1065.8	880.9	755.7	713.4
47.5°	1116.9	991.9	801.6	676.5	637.7
50°	1043.0	917.9	724.1	602.4	565.6
52.5°	970.6	838.5	650.1	533.8	500.4
55°	900.2	762.7	572.5	466.9	433.4
57.5°	828.0	687.1	503.9	405.2	377.0
60°	754.0	613.1	431.5	341.9	313.6
62.5°	681.8	540.9	369.9	285.4	271.4
65°	607.8	465.1	306.5	246.7	241.3
67.5°	537.3	394.6	246.7	216.7	211.4
70°	463.4	325.9	204.3	186.7	179.6
72.5°	392.9	262.4	170.9	156.8	153.3
75°	324.1	200.7	140.9	128.6	126.9
77.5°	255.5	142.6	111.1	103.9	100.3
80°	192.0	102.2	84.5	77.5	77.5
82.5°	133.9	68.8	58.1	54.5	54.5
85°	75.7	38.7	33.4	33.4	33.4
87.5°	28.3	14.0	14.0	12.3	12.3
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	14.00	15.52	14.37	15.84	16.15	9.96	11.49	10.33	11.80	12.11
	3H	15.77	17.13	16.15	17.46	17.82	11.23	12.59	11.61	12.92	13.28
	4H	16.43	17.72	16.83	18.06	18.44	11.73	13.01	12.13	13.36	13.74
	6H	16.92	18.11	17.34	18.47	18.87	12.11	13.29	12.52	13.66	14.05
	8H	17.09	18.22	17.52	18.61	19.01	12.24	13.36	12.66	13.75	14.15
	12H	17.19	18.27	17.62	18.65	19.08	12.32	13.39	12.75	13.78	14.21
4H	2H	14.11	15.39	14.51	15.74	16.11	10.66	11.94	11.06	12.29	12.67
	3H	16.04	17.10	16.45	17.50	17.90	12.10	13.16	12.51	13.56	13.97
	4H	16.79	17.75	17.22	18.16	18.60	12.70	13.66	13.13	14.07	14.51
	6H	17.38	18.21	17.84	18.66	19.12	13.19	14.02	13.65	14.46	14.92
	8H	17.60	18.37	18.06	18.82	19.28	13.35	14.13	13.81	14.57	15.04
	12H	17.75	18.44	18.23	18.92	19.39	13.47	14.16	13.95	14.64	15.11
8H	4H	16.81	17.59	17.28	18.04	18.50	13.06	13.83	13.52	14.28	14.74
	6H	17.45	18.09	17.95	18.59	19.06	13.64	14.28	14.14	14.78	15.25
	8H	17.70	18.28	18.22	18.79	19.28	13.86	14.44	14.38	14.95	15.44
	12H	17.91	18.42	18.42	18.91	19.47	14.04	14.55	14.55	15.04	15.61
12H	4H	16.80	17.49	17.28	17.97	18.44	13.10	13.79	13.58	14.27	14.74
	6H	17.43	18.01	17.95	18.52	19.01	13.70	14.28	14.22	14.79	15.28
	8H	17.72	18.23	18.23	18.72	19.28	13.98	14.49	14.49	14.98	15.54