

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: P929967

Luminaire Tested: DFN2DS-4P4F0-050DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929967
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-050DS830-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

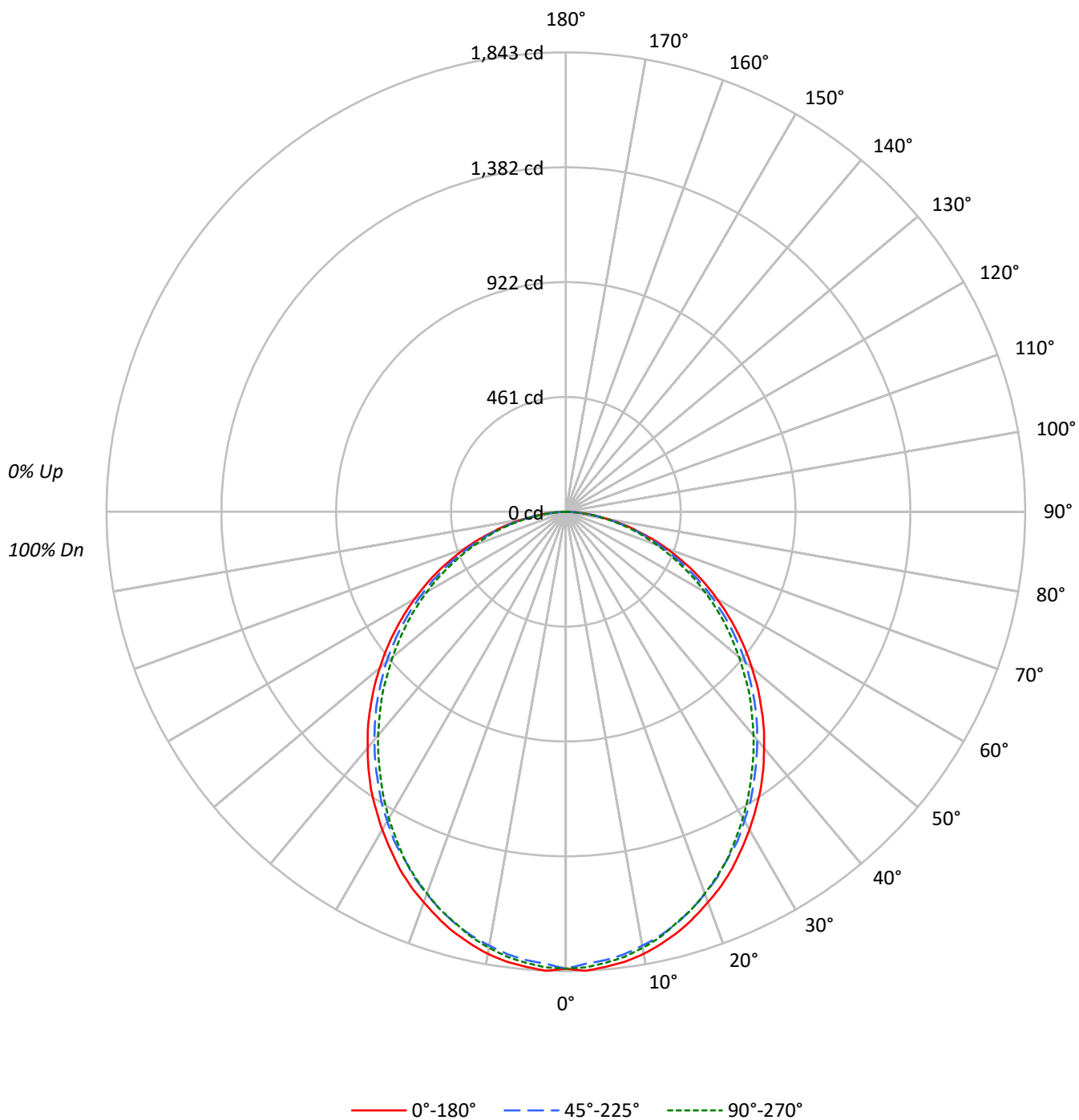
Lumens per Lamp: N/A
Luminaire Lumens: 4662.9 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929967

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929967

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-FLL

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1189	1189	1189
5°	1193	1176	1183
10°	1186	1164	1170
15°	1172	1149	1148
20°	1151	1127	1125
25°	1130	1099	1099
30°	1104	1073	1064
35°	1079	1043	1027
40°	1048	1012	992
45°	1017	981	957
50°	984	950	916
55°	949	913	879
60°	910	869	837
65°	869	825	787
70°	816	772	736
75°	742	711	694
80°	659	638	606
85°	537	512	459

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1017 cd/sqm

TEST NUMBER: P929967

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.7
10°-20°	485.3	10.4
20°-30°	713.2	15.3
30°-40°	828.4	17.8
40°-50°	827.4	17.7
50°-60°	721.4	15.5
60°-70°	533.3	11.4
70°-80°	301.7	6.5
80°-90°	79.6	1.7
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°	1371.1	29.4
0°-40°	2199.4	47.2
0°-60°	3748.2	80.4
0°-90°	4662.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4662.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1826	1806	1820	1817	174
15°	1745	1734	1711	1718	1709	491
25°	1579	1565	1535	1538	1535	727
35°	1362	1345	1316	1306	1297	851
45°	1108	1096	1070	1050	1043	856
55°	839	828	807	786	777	750
65°	566	555	538	522	513	559
75°	296	293	284	273	277	316
85°	72	70	69	63	62	85
90°	0	0	0	0	0	

TEST NUMBER: P929967

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1832.7	1832.7	1832.7	1832.7	1832.7
2.5°	1843.3	1834.5	1815.1	1832.7	1829.4
5°	1832.7	1825.8	1806.3	1820.3	1817.0
7.5°	1820.3	1809.9	1790.5	1804.7	1801.1
10°	1801.1	1788.8	1767.7	1781.6	1776.4
12.5°	1774.5	1764.1	1743.0	1751.7	1748.2
15°	1744.6	1734.1	1711.1	1718.3	1709.4
17.5°	1707.6	1697.1	1674.1	1682.9	1674.1
20°	1667.1	1656.6	1631.9	1637.1	1630.2
22.5°	1626.6	1610.7	1587.7	1587.7	1584.2
25°	1579.0	1564.9	1535.0	1538.4	1535.0
27.5°	1526.0	1513.7	1490.9	1485.6	1476.9
30°	1473.3	1459.2	1432.8	1427.5	1420.4
32.5°	1416.9	1406.4	1378.1	1367.5	1360.4
35°	1362.2	1344.7	1316.4	1305.8	1297.0
37.5°	1300.5	1284.7	1256.4	1244.1	1235.3
40°	1237.2	1223.0	1194.7	1179.0	1171.9
42.5°	1175.5	1161.3	1133.2	1115.4	1105.0
45°	1108.5	1096.2	1069.6	1050.4	1043.3
47.5°	1043.3	1030.9	1002.8	983.3	972.8
50°	974.5	965.7	941.1	916.4	907.5
52.5°	907.5	895.2	872.4	853.0	840.6
55°	838.9	828.3	807.1	786.0	777.2
57.5°	770.1	761.3	738.3	717.2	710.1
60°	701.3	694.4	669.8	650.3	645.1
62.5°	634.4	622.1	604.5	586.9	579.8
65°	565.8	555.1	537.5	521.7	512.8
67.5°	495.3	486.4	470.6	458.3	451.1
70°	430.0	423.0	407.0	394.7	387.8
72.5°	363.1	356.0	347.2	334.9	329.6
75°	296.0	292.6	283.6	273.2	276.8
77.5°	236.2	229.0	225.5	220.2	215.1
80°	176.3	174.5	170.9	165.7	162.1
82.5°	119.8	119.8	118.1	111.1	111.1
85°	72.2	70.5	68.8	63.4	61.7
87.5°	31.7	28.3	24.7	19.4	17.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929967

CATALOG NUMBER: DFN2DS-4P4F0-050DS830-FLL

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	11.88	13.49	12.25	13.81	14.12	11.44	13.05	11.80	13.36	13.68
	3H	13.63	15.09	14.01	15.42	15.78	13.14	14.60	13.52	14.92	15.28
	4H	14.28	15.65	14.68	16.00	16.37	13.79	15.15	14.18	15.50	15.88
	6H	14.75	16.02	15.16	16.38	16.77	14.25	15.52	14.66	15.88	16.27
	8H	14.89	16.10	15.32	16.49	16.89	14.39	15.60	14.81	15.99	16.39
	12H	14.98	16.14	15.41	16.52	16.95	14.47	15.63	14.90	16.01	16.44
4H	2H	12.44	13.81	12.84	14.16	14.54	12.09	13.46	12.49	13.81	14.18
	3H	14.42	15.57	14.83	15.96	16.36	14.01	15.16	14.42	15.56	15.96
	4H	15.20	16.23	15.63	16.65	17.08	14.77	15.81	15.20	16.22	16.66
	6H	15.79	16.70	16.25	17.14	17.59	15.36	16.26	15.81	16.71	17.16
	8H	15.98	16.83	16.44	17.27	17.74	15.54	16.39	16.00	16.83	17.30
	12H	16.11	16.87	16.59	17.35	17.82	15.66	16.42	16.14	16.90	17.37
8H	4H	15.47	16.32	15.93	16.76	17.22	15.10	15.94	15.56	16.38	16.85
	6H	16.18	16.89	16.68	17.38	17.85	15.80	16.51	16.30	16.99	17.47
	8H	16.44	17.07	16.95	17.58	18.07	16.05	16.68	16.56	17.19	17.67
	12H	16.64	17.20	17.15	17.69	18.25	16.23	16.79	16.74	17.28	17.84
12H	4H	15.50	16.26	15.98	16.73	17.20	15.13	15.89	15.61	16.37	16.84
	6H	16.23	16.86	16.74	17.37	17.85	15.86	16.49	16.37	17.00	17.49
	8H	16.54	17.10	17.05	17.59	18.15	16.17	16.72	16.67	17.21	17.77