

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: P929833

Luminaire Tested: DFN2DS-4P2F0-040DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929833
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-4P2F0-040DS930-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

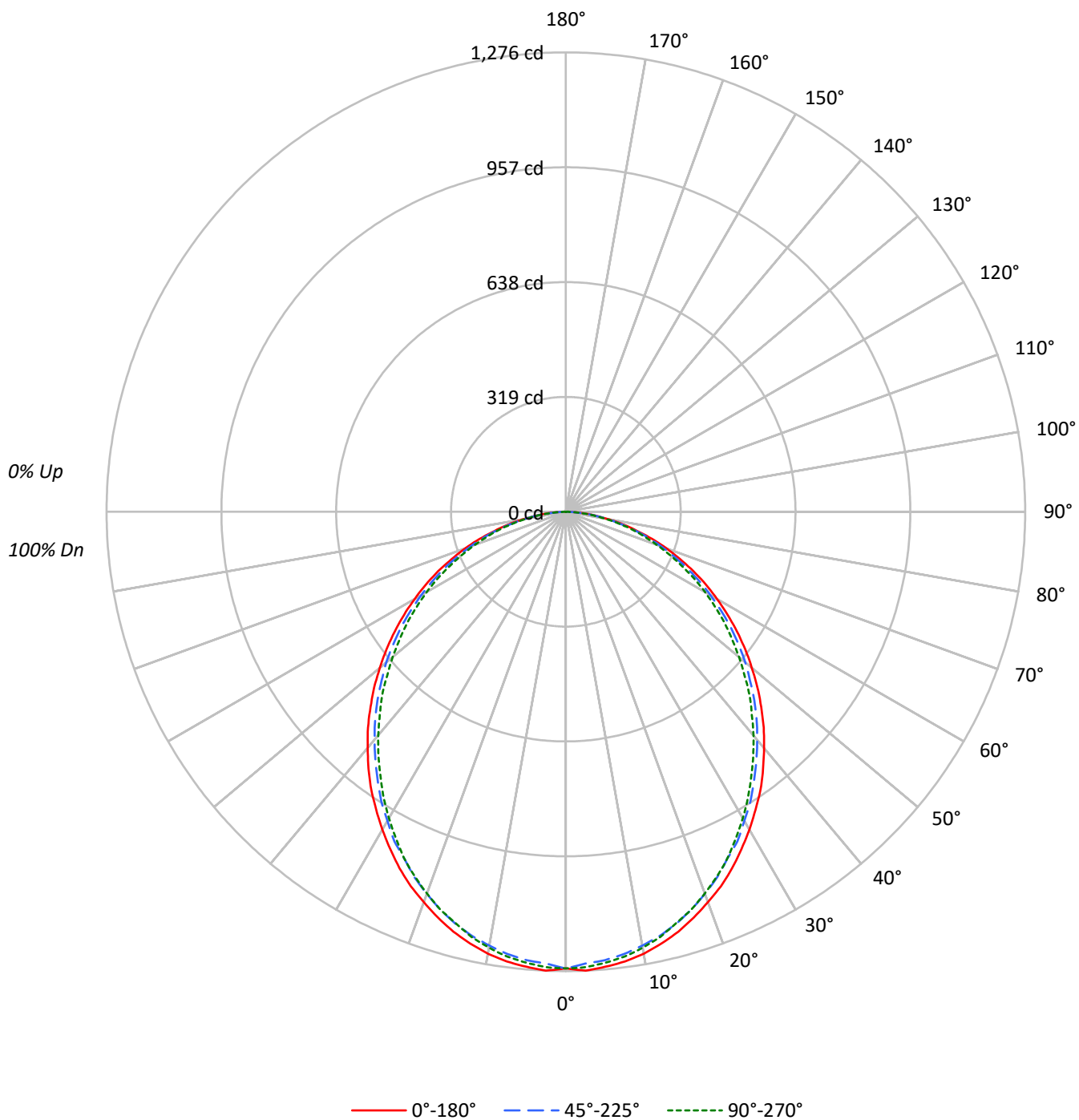
Lumens per Lamp: N/A
Luminaire Lumens: 3227.4 lumens
Efficiency: N/A
Efficacy: 74.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929833

CATALOG NUMBER: DFN2DS-4P2F0-040DS930-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929833

CATALOG NUMBER: DFN2DS-4P2F0-040DS930-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°	3176	3176	3176
5°	3188	3142	3161
10°	3170	3111	3126
15°	3130	3070	3067
20°	3075	3010	3007
25°	3019	2935	2935
30°	2948	2867	2842
35°	2882	2785	2744
40°	2799	2703	2652
45°	2717	2622	2557
50°	2628	2537	2447
55°	2535	2439	2349
60°	2431	2322	2236
65°	2320	2204	2103
70°	2179	2062	1965
75°	1982	1899	1853
80°	1759	1706	1618
85°	1437	1368	1227

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2717 cd/sqm

TEST NUMBER: P929833

CATALOG NUMBER: DFN2DS-4P2F0-040DS930-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.4	3.7
10°-20°	335.9	10.4
20°-30°	493.7	15.3
30°-40°	573.4	17.8
40°-50°	572.7	17.7
50°-60°	499.3	15.5
60°-70°	369.1	11.4
70°-80°	208.8	6.5
80°-90°	55.1	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°	949.0	29.4
0°-40°	1522.3	47.2
0°-60°	2594.3	80.4
0°-90°	3227.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3227.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1268	1264	1250	1260	1258	120
15°	1208	1200	1184	1189	1183	340
25°	1093	1083	1062	1065	1062	503
35°	943	931	911	904	898	589
45°	767	759	740	727	722	592
55°	581	573	559	544	538	519
65°	392	384	372	361	355	387
75°	205	202	196	189	192	219
85°	50	49	48	44	43	59
90°	0	0	0	0	0	

TEST NUMBER: P929833

CATALOG NUMBER: DFN2DS-4P2F0-040DS930-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1268.5	1268.5	1268.5	1268.5	1268.5
2.5°	1275.9	1269.8	1256.3	1268.5	1266.2
5°	1268.5	1263.7	1250.2	1259.9	1257.6
7.5°	1259.9	1252.7	1239.2	1249.1	1246.6
10°	1246.6	1238.1	1223.5	1233.2	1229.5
12.5°	1228.2	1221.0	1206.4	1212.5	1209.9
15°	1207.5	1200.3	1184.4	1189.2	1183.2
17.5°	1181.9	1174.7	1158.8	1164.8	1158.8
20°	1153.8	1146.5	1129.5	1133.1	1128.4
22.5°	1125.8	1114.8	1098.9	1098.9	1096.5
25°	1092.8	1083.1	1062.4	1064.8	1062.4
27.5°	1056.2	1047.7	1032.0	1028.3	1022.3
30°	1019.7	1009.9	991.7	988.0	983.1
32.5°	980.7	973.4	953.9	946.5	941.6
35°	942.9	930.7	911.2	903.8	897.7
37.5°	900.2	889.2	869.6	861.1	855.0
40°	856.3	846.5	826.9	816.1	811.2
42.5°	813.6	803.8	784.4	772.0	764.8
45°	767.2	758.8	740.3	727.1	722.1
47.5°	722.1	713.5	694.1	680.6	673.4
50°	674.5	668.4	651.3	634.2	628.1
52.5°	628.1	619.6	603.8	590.4	581.8
55°	580.7	573.3	558.7	544.0	538.0
57.5°	533.0	527.0	511.0	496.4	491.5
60°	485.4	480.6	463.6	450.1	446.5
62.5°	439.1	430.6	418.4	406.2	401.3
65°	391.6	384.2	372.0	361.0	355.0
67.5°	342.8	336.6	325.8	317.2	312.3
70°	297.6	292.7	281.7	273.2	268.4
72.5°	251.3	246.4	240.3	231.8	228.1
75°	204.9	202.5	196.3	189.1	191.5
77.5°	163.4	158.5	156.1	152.4	148.8
80°	122.0	120.7	118.3	114.7	112.2
82.5°	83.0	83.0	81.8	76.9	76.9
85°	50.0	48.8	47.6	43.8	42.7
87.5°	22.0	19.6	17.1	13.4	12.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929833

CATALOG NUMBER: DFN2DS-4P2F0-040DS930-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	15.30	16.91	15.66	17.22	17.54	14.85	16.46	15.22	16.78	17.09
	3H	17.05	18.50	17.42	18.83	19.19	16.56	18.01	16.93	18.34	18.70
	4H	17.69	19.06	18.09	19.41	19.79	17.20	18.57	17.60	18.92	19.29
	6H	18.16	19.43	18.57	19.80	20.19	17.66	18.93	18.07	19.30	19.69
	8H	18.31	19.52	18.73	19.91	20.31	17.80	19.01	18.23	19.40	19.80
	12H	18.40	19.56	18.83	19.94	20.37	17.88	19.04	18.31	19.43	19.86
4H	2H	15.86	17.23	16.26	17.58	17.95	15.51	16.87	15.90	17.22	17.60
	3H	17.83	18.98	18.24	19.38	19.78	17.43	18.57	17.84	18.97	19.37
	4H	18.61	19.65	19.04	20.06	20.50	18.19	19.22	18.62	19.64	20.07
	6H	19.21	20.11	19.66	20.55	21.01	18.77	19.68	19.23	20.12	20.58
	8H	19.40	20.24	19.86	20.68	21.15	18.96	19.80	19.42	20.25	20.71
	12H	19.53	20.29	20.01	20.76	21.23	19.08	19.84	19.56	20.31	20.78
8H	4H	18.88	19.73	19.34	20.17	20.64	18.51	19.36	18.97	19.80	20.26
	6H	19.60	20.30	20.09	20.79	21.26	19.22	19.92	19.71	20.41	20.88
	8H	19.86	20.49	20.37	20.99	21.48	19.47	20.10	19.98	20.60	21.09
	12H	20.06	20.61	20.56	21.11	21.67	19.64	20.20	20.15	20.69	21.25
12H	4H	18.91	19.67	19.39	20.14	20.61	18.54	19.30	19.02	19.78	20.25
	6H	19.64	20.27	20.15	20.78	21.27	19.27	19.91	19.78	20.41	20.90
	8H	19.96	20.51	20.46	21.01	21.57	19.58	20.14	20.09	20.63	21.19