

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: P915232

Luminaire Tested: DFN2DIP-TR2F0-050D020US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915232
REPORT IS A COMBINATION OF REPORTS P900227 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D020US927-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

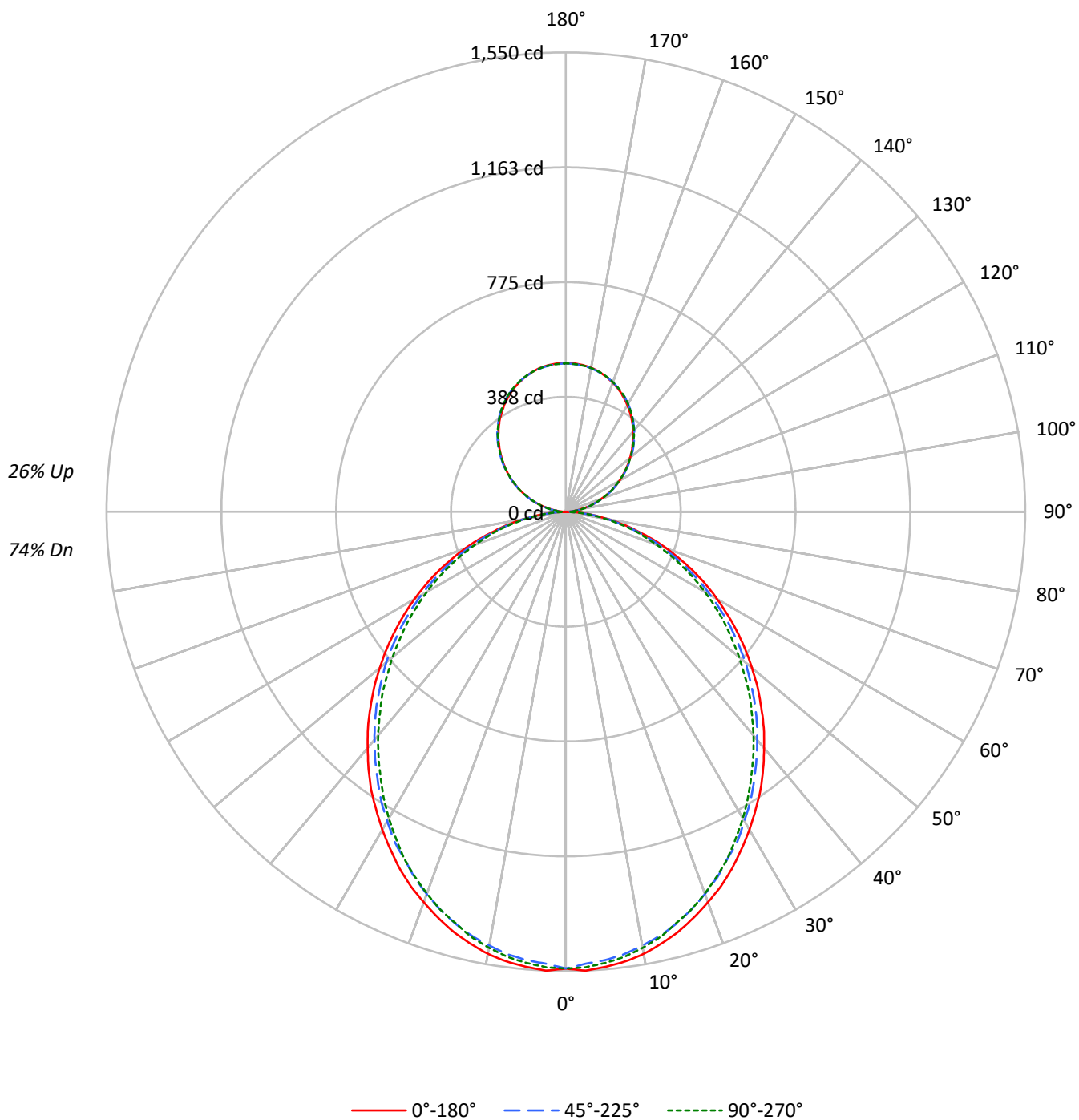
Lumens per Lamp: N/A
Luminaire Lumens: 5323.4 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 62.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P915232

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US927-FLLFLL

Luminous Intensity Polar Plot



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CATALOG NUMBER: DFN2DIP-TR2F0-050D020US927-FLLFLL

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	30	10
RCR																	
0	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78
1	103	99	95	91	98	94	90	87	85	82	80	77	74	72	69	67	66
2	94	86	80	74	89	82	76	71	74	70	66	67	64	61	61	58	55
3	86	76	68	62	81	72	65	60	66	60	55	59	55	51	54	50	47
4	79	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	41
5	72	60	52	45	68	57	50	44	52	46	41	48	42	38	43	39	36
6	67	54	46	40	63	52	44	38	47	41	36	43	38	34	39	35	31
7	62	49	41	35	58	47	39	34	43	37	32	39	34	30	36	31	28
8	57	45	37	31	54	43	35	30	39	33	28	36	31	27	33	29	25
9	54	41	33	28	51	39	32	27	36	30	26	33	28	24	31	26	23
10	50	38	30	25	48	36	29	24	33	27	23	31	26	22	28	24	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3438	3438	3438
5°	3438	3382	3407
10°	3405	3329	3355
15°	3350	3266	3277
20°	3277	3183	3197
25°	3205	3084	3106
30°	3115	2992	2992
35°	3029	2884	2872
40°	2926	2775	2757
45°	2821	2665	2638
50°	2707	2550	2502
55°	2587	2416	2376
60°	2451	2260	2231
65°	2302	2095	2060
70°	2112	1896	1875
75°	1852	1656	1696
80°	1536	1351	1370
85°	1047	851	852

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2821 cd/sqm

TEST NUMBER: P915232

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.1	2.7
10°-20°	408.1	7.7
20°-30°	599.8	11.3
30°-40°	696.6	13.1
40°-50°	695.8	13.1
50°-60°	606.7	11.4
60°-70°	448.5	8.4
70°-80°	253.7	4.8
80°-90°	68.4	1.3
90°-100°	31.0	0.6
100°-110°	98.5	1.9
110°-120°	168.6	3.2
120°-130°	221.7	4.2
130°-140°	248.9	4.7
140°-150°	244.1	4.6
150°-160°	204.7	3.8
160°-170°	135.8	2.6
170°-180°	47.5	0.9
0°-30°	1153.0	21.7
0°-40°	1849.6	34.7
0°-60°	3152.1	59.2
0°-90°	3922.7	73.7
90°-120°	298.1	5.6
90°-150°	1012.8	19.0
90°-180°	1401.0	26.3
0°-180°	5323.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1541	1541	1541	1541	1541	
5°	1541	1535	1519	1531	1528	146
15°	1467	1458	1439	1445	1438	413
25°	1328	1316	1291	1294	1291	611
35°	1146	1131	1107	1098	1091	715
45°	932	922	900	883	877	719
55°	706	697	679	661	654	631
65°	476	467	452	439	431	470
75°	249	246	238	230	233	266
85°	61	59	58	53	52	68
90°	0	6	15	14	14	5
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	

TEST NUMBER: P915232

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1541.2	1541.2	1541.2	1541.2	1541.2
2.5°	1550.1	1542.8	1526.5	1541.2	1538.4
5°	1541.2	1535.4	1519.0	1530.8	1528.0
7.5°	1530.8	1522.0	1505.7	1517.7	1514.7
10°	1514.7	1504.3	1486.5	1498.3	1493.9
12.5°	1492.3	1483.5	1465.8	1473.1	1470.1
15°	1467.1	1458.3	1439.0	1445.0	1437.6
17.5°	1436.0	1427.2	1407.9	1415.2	1407.9
20°	1401.9	1393.1	1372.4	1376.7	1370.9
22.5°	1367.9	1354.6	1335.2	1335.2	1332.2
25°	1327.9	1316.1	1290.9	1293.7	1290.9
27.5°	1283.3	1273.0	1253.8	1249.3	1242.0
30°	1239.0	1227.1	1204.9	1200.5	1194.5
32.5°	1191.5	1182.7	1159.0	1150.0	1144.1
35°	1145.6	1130.8	1107.1	1098.1	1090.8
37.5°	1093.7	1080.4	1056.6	1046.2	1038.9
40°	1040.5	1028.5	1004.7	991.5	985.6
42.5°	988.6	976.6	953.0	938.0	929.2
45°	932.2	921.9	899.5	883.4	877.3
47.5°	877.3	867.0	843.3	826.9	818.1
50°	819.5	812.1	791.4	770.6	763.2
52.5°	763.2	752.8	733.6	717.3	706.9
55°	705.5	696.6	678.7	661.0	653.6
57.5°	647.6	640.2	620.9	603.2	597.1
60°	589.8	584.0	563.2	546.8	542.5
62.5°	533.5	523.2	508.3	493.5	487.6
65°	475.8	466.8	452.0	438.7	431.3
67.5°	416.5	409.0	395.8	385.4	379.4
70°	361.6	355.7	342.3	331.9	326.1
72.5°	305.4	299.4	292.0	281.6	277.2
75°	248.9	246.1	238.5	229.7	232.7
77.5°	198.6	192.6	189.6	185.2	180.9
80°	148.3	146.7	143.7	139.3	136.3
82.5°	100.8	100.8	99.3	93.4	93.4
85°	60.7	59.3	57.8	53.3	51.9
87.5°	26.7	23.8	20.8	16.3	14.8
90°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2

TEST NUMBER: P915232

CATALOG NUMBER: DFN2DIP-TR2F0-050D020US927-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1

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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	13.38	14.50	14.10	15.25	16.14	12.96	14.08	13.68	14.83	15.71
	3H	15.04	16.05	15.77	16.80	17.72	14.58	15.59	15.31	16.34	17.26
	4H	15.62	16.57	16.38	17.34	18.27	15.16	16.11	15.92	16.88	17.81
	6H	16.02	16.90	16.78	17.67	18.61	15.56	16.44	16.32	17.21	18.15
	8H	16.12	16.96	16.90	17.75	18.70	15.66	16.50	16.44	17.29	18.24
	12H	16.17	16.97	16.95	17.75	18.73	15.70	16.50	16.49	17.29	18.26
4H	2H	13.86	14.82	14.62	15.58	16.51	13.53	14.48	14.28	15.24	16.17
	3H	15.73	16.52	16.50	17.32	18.27	15.34	16.14	16.11	16.94	17.89
	4H	16.43	17.16	17.22	17.96	18.93	16.04	16.76	16.82	17.56	18.54
	6H	16.94	17.57	17.74	18.39	19.37	16.54	17.17	17.35	17.99	18.98
	8H	17.08	17.67	17.89	18.49	19.49	16.69	17.27	17.49	18.09	19.09
	12H	17.16	17.69	17.99	18.53	19.53	16.75	17.28	17.58	18.12	19.12
8H	4H	16.64	17.23	17.45	18.05	19.04	16.29	16.87	17.10	17.69	18.69
	6H	17.25	17.74	18.09	18.60	19.60	16.90	17.39	17.74	18.25	19.25
	8H	17.46	17.89	18.31	18.75	19.76	17.10	17.54	17.95	18.40	19.41
	12H	17.59	17.97	18.44	18.82	19.89	17.22	17.60	18.07	18.45	19.52
12H	4H	16.64	17.16	17.46	18.00	19.01	16.29	16.82	17.12	17.66	18.66
	6H	17.28	17.71	18.13	18.57	19.59	16.94	17.37	17.79	18.23	19.24
	8H	17.52	17.90	18.37	18.75	19.82	17.17	17.55	18.02	18.40	19.47