

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: P907028

Luminaire Tested: DFN2DIP-TR2F0-040D020US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907028
REPORT IS A COMBINATION OF REPORTS P900225 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-040D020US835-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

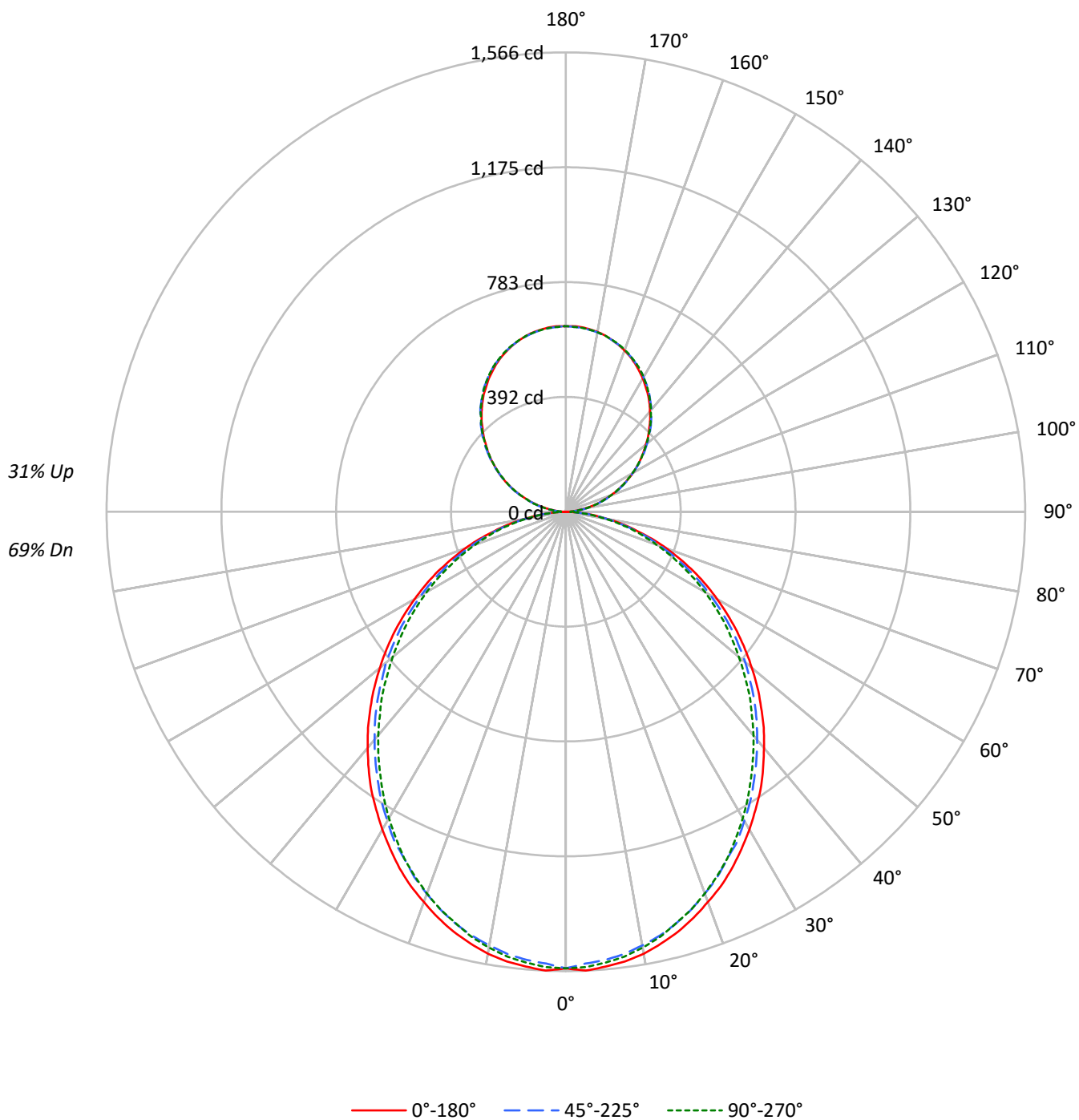
Lumens per Lamp: N/A
Luminaire Lumens: 5730.0 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 51.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFL

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	112	112	112	112	106	106	106	106	94	94	94	83	83	83	74	74	74
1	102	98	94	90	96	92	89	86	83	80	77	74	71	70	65	64	62
2	93	85	79	74	88	81	75	70	72	68	64	65	61	58	57	55	52
3	85	75	67	61	80	71	64	59	64	58	54	57	53	49	51	48	45
4	78	67	58	52	73	63	56	50	57	51	46	51	46	42	46	42	39
5	71	59	51	45	67	56	49	43	51	45	40	46	41	37	41	37	34
6	66	53	45	39	62	51	43	38	46	40	35	41	36	32	37	33	30
7	61	48	40	34	58	46	39	33	42	35	31	38	33	29	34	30	26
8	57	44	36	31	54	42	35	30	38	32	28	35	29	26	31	27	24
9	53	40	33	27	50	39	31	26	35	29	25	32	27	23	29	25	21
10	50	37	30	25	47	36	29	24	32	27	22	30	25	21	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3471	3471	3471
5°	3472	3415	3440
10°	3439	3362	3388
15°	3383	3299	3309
20°	3309	3214	3229
25°	3236	3114	3137
30°	3146	3021	3021
35°	3059	2913	2900
40°	2954	2802	2784
45°	2849	2692	2664
50°	2734	2575	2527
55°	2613	2441	2399
60°	2475	2282	2253
65°	2325	2116	2081
70°	2133	1915	1893
75°	1871	1673	1713
80°	1550	1364	1385
85°	1057	860	860

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2849 cd/sqm

TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.5	2.6
10°-20°	412.2	7.2
20°-30°	605.7	10.6
30°-40°	703.5	12.3
40°-50°	702.6	12.3
50°-60°	612.7	10.7
60°-70°	452.9	7.9
70°-80°	256.2	4.5
80°-90°	69.4	1.2
90°-100°	39.1	0.7
100°-110°	124.4	2.2
110°-120°	212.8	3.7
120°-130°	279.9	4.9
130°-140°	314.2	5.5
140°-150°	308.1	5.4
150°-160°	258.4	4.5
160°-170°	171.4	3.0
170°-180°	59.9	1.0
0°-30°	1164.4	20.3
0°-40°	1867.9	32.6
0°-60°	3183.2	55.6
0°-90°	3961.8	69.1
90°-120°	376.3	6.6
90°-150°	1278.5	22.3
90°-180°	1768.0	30.9
0°-180°	5730.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1556	1556	1556	1556	1556	
5°	1556	1550	1534	1546	1543	148
15°	1482	1473	1453	1459	1452	417
25°	1341	1329	1304	1306	1304	617
35°	1157	1142	1118	1109	1102	722
45°	941	931	908	892	886	727
55°	712	703	686	668	660	637
65°	480	471	456	443	436	475
75°	251	248	241	232	235	268
85°	61	60	58	54	52	68
90°	1	7	19	18	18	5
95°	28	33	34	34	33	31
105°	115	116	118	118	118	121
115°	214	217	216	215	214	211
125°	311	315	314	312	312	278
135°	402	408	409	408	407	311
145°	488	492	495	495	493	305
155°	558	559	561	564	562	257
165°	607	606	606	610	607	171
175°	631	630	629	632	629	60
180°	632	632	632	632	632	

TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1556.4	1556.4	1556.4	1556.4	1556.4
2.5°	1565.5	1558.0	1541.5	1556.4	1553.6
5°	1556.4	1550.5	1534.0	1545.9	1543.1
7.5°	1545.9	1537.0	1520.5	1532.6	1529.6
10°	1529.6	1519.1	1501.2	1513.1	1508.6
12.5°	1507.0	1498.1	1480.2	1487.7	1484.6
15°	1481.6	1472.7	1453.2	1459.2	1451.8
17.5°	1450.2	1441.3	1421.8	1429.2	1421.8
20°	1415.7	1406.8	1385.9	1390.3	1384.5
22.5°	1381.4	1367.9	1348.4	1348.4	1345.4
25°	1340.9	1329.0	1303.6	1306.5	1303.6
27.5°	1296.0	1285.5	1266.2	1261.7	1254.3
30°	1251.2	1239.2	1216.8	1212.3	1206.3
32.5°	1203.3	1194.4	1170.4	1161.4	1155.3
35°	1156.9	1142.0	1118.0	1109.0	1101.5
37.5°	1104.5	1091.0	1067.0	1056.6	1049.1
40°	1050.7	1038.6	1014.6	1001.3	995.3
42.5°	998.3	986.2	962.4	947.3	938.4
45°	941.4	931.0	908.4	892.1	886.0
47.5°	886.0	875.5	851.6	835.1	826.2
50°	827.6	820.1	799.2	778.2	770.7
52.5°	770.7	760.3	740.9	724.4	713.9
55°	712.5	703.4	685.5	667.5	660.1
57.5°	654.0	646.6	627.0	609.1	603.1
60°	595.6	589.7	568.8	552.3	547.8
62.5°	538.8	528.3	513.4	498.4	492.4
65°	480.5	471.4	456.5	443.0	435.6
67.5°	420.6	413.0	399.7	389.2	383.2
70°	365.2	359.2	345.7	335.2	329.3
72.5°	308.4	302.3	294.9	284.4	279.9
75°	251.4	248.5	240.9	232.0	235.0
77.5°	200.5	194.5	191.5	187.0	182.6
80°	149.7	148.1	145.1	140.7	137.7
82.5°	101.8	101.8	100.4	94.3	94.3
85°	61.3	59.9	58.4	53.8	52.4
87.5°	27.0	24.0	21.0	16.5	14.9
90°	0.6	6.9	18.7	17.5	18.1
92.5°	11.8	16.0	16.6	17.2	17.2
95°	27.8	33.2	34.1	34.1	33.2
97.5°	46.3	51.3	53.4	53.4	53.4
100°	67.7	72.1	73.6	73.6	73.0
102.5°	90.2	93.4	95.5	96.1	95.5
105°	114.8	116.3	117.5	118.4	118.4
107.5°	139.2	141.5	141.5	141.9	139.2
110°	162.9	165.9	165.9	165.9	164.4



TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	188.4	191.6	191.1	189.5	188.4
115°	213.6	216.6	215.7	215.1	213.6
117.5°	238.6	242.8	240.1	238.6	237.0
120°	263.7	267.9	263.7	263.7	262.0
122.5°	286.6	291.9	289.3	287.8	286.6
125°	310.6	315.4	313.9	312.2	311.6
127.5°	334.1	340.0	337.9	335.6	334.1
130°	356.0	362.9	361.9	360.8	358.7
132.5°	380.6	386.0	386.3	383.7	382.1
135°	401.8	407.7	408.8	408.3	406.7
137.5°	425.4	430.2	431.2	430.8	428.5
140°	446.2	451.0	453.7	453.7	451.6
142.5°	467.6	472.3	473.9	474.4	472.3
145°	487.8	491.6	494.7	495.2	493.1
147.5°	505.9	510.7	513.0	513.9	511.8
150°	524.6	527.8	529.9	531.6	529.9
152.5°	541.2	544.4	547.1	549.2	547.1
155°	557.8	559.3	561.0	563.7	562.0
157.5°	572.1	573.2	574.2	578.0	575.3
160°	584.9	586.0	586.6	589.8	587.5
162.5°	596.7	596.7	597.2	600.9	598.2
165°	606.8	606.2	606.2	610.0	607.4
167.5°	615.9	614.2	614.2	618.0	615.4
170°	622.8	621.3	620.7	624.5	621.3
172.5°	627.6	626.0	625.5	629.3	626.0
175°	631.4	629.9	628.7	632.5	629.3
177.5°	633.5	632.0	630.8	634.0	630.8
180°	632.5	632.5	632.5	632.5	632.5

TEST NUMBER: P907028

CATALOG NUMBER: DFN2DIP-TR2F0-040D020US835-FLLFL

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	13.07	14.13	13.84	14.93	15.90	12.65	13.71	13.42	14.51	15.48
	3H	14.72	15.68	15.51	16.48	17.48	14.26	15.22	15.05	16.02	17.02
	4H	15.30	16.21	16.11	17.02	18.03	14.84	15.75	15.65	16.56	17.57
	6H	15.69	16.53	16.51	17.35	18.37	15.23	16.07	16.05	16.89	17.91
	8H	15.80	16.59	16.62	17.43	18.46	15.34	16.13	16.16	16.97	18.00
	12H	15.84	16.60	16.67	17.43	18.49	15.38	16.14	16.21	16.97	18.02
4H	2H	13.55	14.45	14.35	15.26	16.27	13.21	14.11	14.02	14.92	15.93
	3H	15.40	16.16	16.22	17.01	18.03	15.02	15.77	15.84	16.62	17.65
	4H	16.11	16.79	16.94	17.64	18.69	15.71	16.40	16.55	17.25	18.30
	6H	16.61	17.21	17.46	18.08	19.13	16.22	16.81	17.07	17.68	18.74
	8H	16.75	17.31	17.61	18.18	19.25	16.36	16.91	17.21	17.78	18.85
	12H	16.83	17.33	17.70	18.21	19.29	16.42	16.92	17.29	17.81	18.88
8H	4H	16.31	16.87	17.16	17.73	18.80	15.96	16.51	16.81	17.38	18.45
	6H	16.92	17.38	17.80	18.29	19.36	16.57	17.03	17.45	17.94	19.01
	8H	17.13	17.54	18.02	18.44	19.53	16.77	17.18	17.66	18.08	19.17
	12H	17.25	17.61	18.15	18.51	19.65	16.88	17.24	17.78	18.14	19.28
12H	4H	16.30	16.80	17.18	17.69	18.77	15.96	16.46	16.83	17.34	18.42
	6H	16.95	17.36	17.84	18.26	19.35	16.61	17.02	17.50	17.92	19.01
	8H	17.18	17.54	18.08	18.44	19.58	16.84	17.20	17.73	18.09	19.23

END OF REPORT